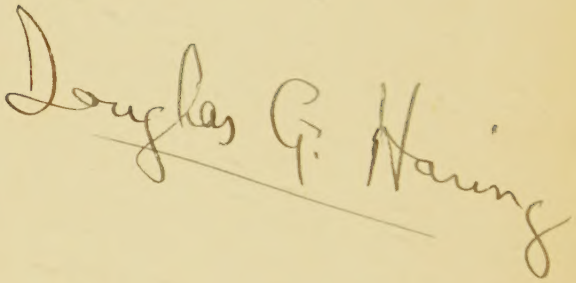
TEMPERAMENT AND RACE

PORTEUS & BABCOCK



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TEMPERAMENT AND RACE

RACES REPRESENTED AT ONE SCHOOL

(From left to right) Top Row—Hawaiian, Part Hawaiian, Spanish, Porto Rican, American. Lower—Filipino, Chinese, Korean, Japanese, Portuguese, Russian.

TEMPERAMENT AND RACE

By

S. D. PORTEUS

Director of Research, Psychological Laboratory, The Training School at Vineland, N. J. Professor of Clinical Psychology and Director, Psychological and Psychopathic Clinic, University of Hawaii. Late Lecturer in Experimental Education and Co-Director, Laboratory of Educational Anthropology, Anatomy Dpt., University of Melbourne, Australia.

and

MARJORIE E. BABCOCK

Asst. Psychologist, Psychological Clinic, University of Hawaii T. H. Late Clinical Examiner, Child Study Dpt., Rochester Public Schools and Research Asst. Psychological Laboratory, The Training School at Vineland, N. J.

ILLUSTRATED

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PREFACE

The comparative scarcity of studies in race psychology should not be interpreted as being due to lack of interest in the subject. When a man has stated his race he has stated one of the most significant and important facts about himself, important in its bearing on his physical make-up, his personality, and his spiritual and mental outlook. We cannot any more help being creatures of our race than we can help being creatures of our time and the imprint of race and time goes far deeper into our individual natures than we think.

Such studies as have been made in the field of racial psychology have been speculative rather than investigational in nature. Following the lead of other branches of the older psychology which dealt so largely in generalities and principles, these studies have tended to develop into more or less contentious discussions as to the nature and the reality of what was called the "group mind," or the behavior of the crowd, or the "herd instinct," topics which have very little to do with race as the ordinary man conceives the term. Here the most opposite views found favour and like similar discussions in other fields where experimental evidence is lacking, the degree of favour depended more on the persuasiveness of the presentation than the cogency of the argument. In all of this work the point of view has been sociological rather than racial.

Possibly the fact that the question of racial differences is so nearly related to our self esteem may be one reason why so little actual work has been done in this field. The subject is so overloaded with assumptions that we must cut through a heap of prejudices before we come to solid

ground. So many people are so thoroughly persuaded of the inherent superiority of their own race that they hardly see the necessity of investigating the question any further.

But leaving racial prejudice on one side it is probable that the chief hindrance to investigation has been the difficulty of securing proper data. It is rare indeed that one finds such favourable conditions for racial comparisons as are to be met with in Hawaii. Large groups of both related and widely separated races, equal in social status and speaking one language in common, make unusual material for psychological investigations of race.

Then it must be admitted that the authors have chosen one portion of the field that is hedged about with very special difficulties. Temperamental traits have been insufficiently investigated in the individual and so the means of evaluating them in the race are largely lacking. The authors have attempted to compensate somewhat for this deficiency in the means of measurement by approaching the subject from different angles, using whatever measuring instruments that are available. In other words the comparison of races has not been made through the medium of mental tests alone but also through an analysis of the social characteristics of races, a brief consideration of their history in Hawaii, and a comparison of some of their most significant physical differences.

This varied approach may give the appearance of disconnectedness to the different parts of the book, but for this we make no apology, counting ourselves rather fortunate that as many means of comparison, imperfect as they are, were available. If we had known any additional method of approach to the problem we should certainly have employed it.

As far as possible we have tried to free our presentation and discussion of these studies from technical terms so as

to make them more intelligible to the plain man's understanding. To this end our use of the word "race" itself is an entirely popular one, "people" or "nationalities" being at times more applicable. If this looseness of description offends some of the anthropologists we can only reply that there is much in the looseness of anthropological terms that, in the present status of the science, cannot be avoided.

We recognize that for very many people the chief interest in our subject is the practical one of bridging the rivers of division between the races by causeways of universal amity and goodwill. No matter how sympathetic we may be towards these efforts, studies such as ours may carry but little material for such purposes. Our part is not to build the bridge but to attempt to measure the depth, the strength and set of the currents, without which knowledge we cannot foretell if the bridge will hold.

Apart from the contribution that studies such as these may indirectly make to the cause of inter-racial understanding, there is another value which may be put upon attempts to extend the methods of individual study to the group or race. Just as by means of a careful consideration of abilities and trends of disposition and temperament, the clinical psychologist hopes to be able to weigh character in the individual and to predict his ultimate worth, so the student of race psychology aims to assess some of the factors in racial character and to take account of flaws and merits of social disposition, intelligence and temperament. In this way it becomes a practical purpose of psychology, not only to give new interpretations and appraisals of racial achievement, but along with this re-reading to make a pre-reading of racial history also possible.

A word may be said with regard to the division of labour in the preparation of this book. The scoring and

the statistical treatment of the mental test results, and the compilation of all the tables and graphs and of the annotated bibliography have been entirely in Miss Babcock's hands. The collection of the data through the application of the tests to school children was equally shared in by both authors. My own contribution has been the plan of work, the taking of the brain capacity measurements and, after joint discussion, the actual presentation of the results together with such theories and opinions as are advanced herein.

To Miss M. L. Catton we owe the results of the application of the Form and Assembling Test in Hawaii and to Mr. L. N. Yepsen similar data from the public schools of Vineland. Mrs. S. D. Porteus has rendered great assistance in searching through the records and references and in gathering much of the material for the historical outline of the races in Hawaii upon which Part II of the book is based.

Our thanks are specially due to the principals of the schools in Hawaii where the work of testing was carried on. These included Mrs. Fraser of Kaiulani, Mrs. Creighton of Kaulawela, Mrs. Burke of Ewa, Mrs. Churchill of Waialua, Mr. B. Wist of the Normal School, Mr. Webling of Kaneohe and the Brothers in charge of St. Louis College. For additional assistance we may mention Miss Wilcox of Kauai, Mr. Clinton Childs of the Alexander Settlement, Maui, and Miss Mossman, Supervisor of Rural Schools, Honolulu, Mr. Townsend, Superintendent of Schools, Millville, N. J., and Mr. C. M. Louttit of the Research Department of the Training School at Vineland.

The study itself was carried out as part of the work of the Psychological and Psychopathic Clinic of the University of Hawaii. The act passed by the legislature of 1921 establishing the Clinic included in the scope of its

duties not only a mental test service to the community but also the conducting and publishing of research investigations.

Through the cooperation of the President of the University, Dr. A. L. Dean, its Board of Regents, and the Training School at Vineland through its Research Committee consisting of Mr. Samuel Fels of Philadelphia, Dr. M. J. Greenman, Director of the Wistar Institute of Anatomy and Professor E. R. Johnstone, Director of the Training School, an arrangement was made whereby the authors could take the data collected in Hawaii and analyse it in the laboratory at Vineland. The book is the result of this cooperation and is offered as a small tribute to the spirit of research that animates both institutions.

S. D. PORTEUS

Vineland, N. J.,
June 15th, 1925

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PART I

INTRODUCTION

TEMPERAMENT AND RACE

Chapter I

RACIAL STUDIES

It has become a commonplace to say that the world is growing smaller. The immense multiplication of the means of travel and communication that has characterized this age of industry and invention has resulted in bringing the peoples of far off corners of the world into closer relations than were the inhabitants of neighbouring countries less than a century ago. At this time there were vast empty land spaces, uncharted seas and unknown islands in the Pacific separating the ancient East from the restless West. But now these spaces have been filled, the gaps have been bridged.

In America the first trickles of emigration westward soon swelled into great streams until the Pacific littoral became fringed with cities that were in after time to rival the centres of population of the Atlantic coast. Then just at the end of the last century America took over what was to be her first listening post in the Pacific Ocean, the Hawaiian islands. In the latter half of the century colonizing swarms of the white race had proceeded eastward, spreading nearly round the globe until the very antipodes became the new frontiers of Western civilization. But in the midst of this seething of peoples and shifting of populations the door of opportunity for other races was thrust ajar and the Orient, once threatened with

being ground into political nothingness between the upper and nether millstones of Western aggression, began to assert itself. For the first time the hitherto unquestioned theory of the innate superiority of the conquering white race received its first serious check. A modernized Japan rose like a portent in the East and conjecture was staggered in the face of the question as to what might happen if an awakened China also were to take her place among the foremost nations. Even in this day the view gains ground that the period of domination of Asia by Europe is rapidly passing and that the future of civilization may be in the hands of races other than the white.

With all this there has come a new and greater interest in the question of racial differences. Hitherto there has been but little evidence that might form the basis of judgment as to the differences in inherent capacity of races. Woodworth's investigation of the abilities of primitive peoples represented at the Chicago Exposition and the Rivers expedition to the islands north of Australia were for a long time the only investigations of note in this field. Since the devising of standardized mental tests various more or less isolated studies have been undertaken mainly with negroes and Indians, but as a matter of fact surprisingly little data is available for consideration even with regard to these races.

This dearth of investigation is in part due to the course of development of psychology itself. The earlier psychology neglected the fact of individual differences, being concerned almost entirely with the attempt to discover the laws which were applicable to minds in general. It was the aim of psychologists to describe the universal nature of mankind, and thus their enquiries followed after the methods of physical science in which the attempt was made to discover general laws, individual deviations therefrom being regarded as infringements or abnormal-

ities. Gradually the fact came to be recognized that for all practical purposes the points in which individuals differed were much more important than the points of similarity or agreement, that human nature did not readily run in the same moulds, and that human natures rather than human nature constituted the true problem. Now it is inevitable that psychologists should take a step forward in another direction. Having devised the means for the measurement and comparison of the mental capacities of individuals, they naturally may use these same methods for the measurement and comparison of racial groups. Yet notwithstanding the importance of the subject very little has yet been done along these lines. It seems almost unnecessary to emphasize the value of such studies, for as Thorndike[1] says, "race directly and indirectly produces differences so great that government, business, industry, marriage, friendship, and almost every other feature of human instinctive and civilized life have to take account of a man's race." The particular task of racial psychology is to take account of these differences and to attempt to separate the essential, or those which depend on innate or inborn capacities, from the indirect or accidental which are due to environment. Here is the old question of the comparative influence of nature and nurture cropping up. Is the present dominance or superiority of the white race due to its inherent advantages or merely to good fortune and historical circumstances? Upon the answer to this question hangs the success or justifiability of national policies that affect the welfare of millions of people. To quote Thorndike once more, "It is a pity that so important a question, by the answer to which the treatment of the so-called lower by the so-called higher races and the treatment of the latter by one another should be largely guided, can be only so imperfectly answered."

[1] Thorndike, E. L. Individuality p. 34.

For America the whole matter of racial differences in capacity has a double significance because it affects both her foreign and domestic policies. The ultimate wisdom of American policies in the Philippines is largely dependent upon the comparative psychological status of the Filipinos and their fitness to govern themselves. But to the United States the problem of racial differences comes even nearer home than that. She has ten millions of negroes within her gates and it will take every contribution that scientific inquiry can make before a satisfactory solution is found for that situation. But leaving out of consideration altogether the problem of negro and white relations, there is left the immensely absorbing domestic question of the immigration of the much more nearly related sub-races of Europe to her shores, and the possible effects of the engrafting of these people upon the original American stock.

We must recognize that in America today this constitutes a most tremendous and unparalleled experiment in nation building. For a time at least the saturation point as regards immigration was not reached, but of late years the alien influx has been so enormous that it must now be admitted that a new America is arising, not on the ashes, but on the foundation of the old. The average mentality and temperament probably is altering with the changes in racial balance in the population. Compared with anything that history records of changes in the racial constitution of a people, those occurring in America today must be considered overwhelmingly sudden. In the thirty years following 1890 over ten millions of people came from Austria-Hungary, Italy, Russia and Poland alone. With their disproportionately high birth rate, these people and their descendants already form so large a part of the population that it is little wonder that even the physical average, as well as the national character is changing so

that the most common type of man of Civil war days would be very far from being typical today.

Insensible as these changes are from year to year, as a whole they have been sudden enough to have been borne in on the consciousness of the American people at large so that there have been misgivings, not to say alarm, as to the fate of the original stock. Already there are societies whose avowed aim is to perpetuate the dominant influence of that stock. Congress, too, in restricting immigration by a quota system is recognizing the fact that some check on the alien influx is necessary. But even if a ban is placed on future immigration, the various races are already tremendously represented here. Of what use is it to man the walls after the wooden horse is already within the citadel? Whether the fact be palatable or not, it is no longer a question of the assimilation of foreign born groups by the American people but of the building up of a new nation. In this melting pot of races it is time to be concerned a little less with the crucible and more with the metal. The racial amalgam has already overflowed and will run in its own chosen moulds and courses. In the present state of affairs it is perhaps more proper to speak not of the Americanization of the alien but of the alienization of America.

How necessary, then, to turn our attention to the scientific study of the racial elements that are fusing together to form the new citizenship! To the new nation that is building, each racial group substantially represented here is making its own distinctive contribution. To understand this contribution we must study the traits of personality, the character, the temperament, the mentality of each group and thus we may hope to interpret the new trends and tendencies of national life. But if we should undertake studies of such far reaching import, then it is most advisable that we set out with an adequate conception

of the complexity of the problem. Under no possible circumstances could half-baked scientific theories be more mischievous and misleading than in racial psychology. If, for example, Congress should substitute for the present unselective quota plan, a psychological examination as a means of choosing immigrants, would there be any pronounced agreement among psychologists as to the value and limitations of such a method? At the present time, it must be confessed, we are only beginning to see this problem in due proportion and perspective.

But outside of the practical bearing of the domestic policies of the country the whole problem of racial differences is one of extreme scientific interest to the world at large. This welter of races can only be likened to some gigantic overthrust which has brought together human strata that could otherwise never have met. And just as the geologist finds in such circumstances an opening of a hitherto sealed book, so here the psychologist and anthropologist may gather data that will help to unlock some of the secrets of racial evolution.

In approaching the problem of racial character and intelligence what are likely to be the most profitable lines of inquiry? It is our conviction that in the struggle for preeminence it will be the racial average, the common man's intelligence that will count heavily as well as the superior intelligence of the leaders. Leadership has not lost any of its importance—far from it—but it has passed from the hands of the few to the many.

History is no longer dominated by a few outstanding figures. National efforts are too huge to be directed by single persons. At no time was this so clearly demonstrated as in the great war, which was a struggle not only of generals and soldiers but of chemists, doctors, engineers, inventors, farmers and shipbuilders. In human endeavour it is no longer the spearhead formation that

counts in attack, but the solid phalanx. At no period was it more worth while to study the aptitudes and the potentialities of the common man. The most promising means of understanding the present mental constitution of the nation and then of studying the contribution and influence of each of its racial components is through the new methods of intelligence testing. Instead of opinions and superficial observations naturally coloured by prejudice and racial bias we can substitute statistically treated results founded upon standardized tests. This procedure should be open to scientific criticism and evaluation at every point, and thus its conclusions can be challenged or upheld. Opinions on the other hand can only be opposed by opinions, and it is extremely difficult for the student to reach any definite conclusions with regard to differences in intelligence due to race.

At this point it is proper to ask what conclusions have already been reached regarding the average level of intelligence of men of our own race, conclusions which after further study and comparison may give us some idea as to the terms upon which we compete with other races. Statements have recently been made as to the mental status of the American people that are positively alarming and which challenge our attention because of their possible bearing upon the future of the race as the upholders of civilization. It is common knowledge that a most remarkable experiment in applied psychology was undertaken by American psychologists during the war—the mental examination of no less than 1,700,000 of army recruits for the purpose of grading them according to intelligence, the idea being to make the mental test ratings the basis of elimination from the army of the grossly inferior or of the selection of men for different arms of military service.

The results of these examinations purport to show that vast numbers of people in America are at a surprisingly

low level of intelligence, so low in fact that when the army scores are translated into mental age equivalents the average intelligence of the nation is found to be something below that a child of fourteen years. Taking the results at their apparent value very many millions, at least thirty, are below the level of intelligence that for a time was accepted as being indicative of a feebleminded condition. A second alarming statement has to do with the transmission of this low mentality. Studies of feebleminded heredity seemed to show that defective intelligence is directly transmissible and according to Mendelian laws.[2] In other words, these millions of low intelligence, mating in their own class, could not fail to produce anything but millions of equally low intelligence. One very famous study showed how from the one progenitor two family strains proceeded, one through a chance union with a feebleminded girl and the other through marriage with a normal woman. The family chart of the former strain was almost entirely 'black' with a record of crime, feeblemindedness, alcoholism and social inefficiency, and the other was characterized by an almost unblemished record of respectability, talent and social fitness. But such studies were carried on at the time of great enthusiasm in the detection of moronity, with great faith in the efficacy of simple tests and observations in the diagnosis of feeblemindedness, and, it must be confessed, with a considerable disposition in some of the field workers to find what they were looking for. The results were at one and the same time both too good and too bad to be true. It can readily be seen that such family charts are not to be considered any longer as reliable, when at the time this work was done, the standards of mental diagnosis were accepted

[2] Goddard has stated the conclusion that "normal-mindedness is, or at least behaves like a unit character; is dominant and is transmitted in accordance with the Mendelian law of inheritance." Feeble mindedness would therefore be recessive.

which would make thirty millions of people in this country feebleminded. These charts must necessarily be revised for the additional reason that we no longer consider that practically all prostitutes and criminals and delinquents owe their social inefficiency to an inborn deficiency of intellect. At the time of the compilation of these family charts almost any form of social inefficiency was considered evidence of feeblemindedness. We have come to have truer views as to the extent to which feeblemindedness is associated with crime and to recognize that there are just as potent factors in the situation as low mentality. If it were not so what an immense crop of criminality could be expected from the forty-five millions of people in this country who belong according to the army ratings in the C minus and lower groups and whose mental age per Binet tests would be 12 years or less! It was the fashion at one time to say that every feebleminded person was a potential criminal. Would it help our conceptions of the causes of crime to stigmatize all these millions as potential criminals?

Be that as it may, the fact is readily conceded that heredity *does* play a large part in the production of feeblemindedness but its influence is more often indirect than direct. In other words, it is not the wholly feebleminded strains that are contributing the greatest weight of mental defect to our social condition but rather family stocks that have some neuropathic taint which is somehow latent, so that in the midst of a normal family of children a feebleminded person is sometimes born. It is rather the exception than the rule that a feebleminded child has all its brothers and sisters feebleminded.

Fortunately for the human race, this fact of heredity cuts both ways. In the common or even inferior stock of a nation some strains of superior blood are present, so that every now and then a superior child is born of medio-

cre or even inferior parents. In other words, the inheriance of human ability does not always proceed on the simplest lines because the intelligent do not always produce the intelligent, nor do the dull always produce the dull. It is surely no more remarkable that mediocre people sometimes have superior children than it is that intelligent people, as they sometimes do, have feebleminded offspring.

If only a little more than ten per cent of the children of the lower nine tenths of the population prove to be of very superior mentality then the front ranks of intelligence will be kept full.

Hence though we may readily admit that the family charts of certain stocks would be feebleminded enough even if whittled down to the point of scientific certainty as regards mental diagnosis; though too we may admit that the chances of mental dullness producing dullness are very much greater than of producing superior mentality; though we cannot view with equanimity the situation with regard to a selective birthrate that results in the upper tenth of the population limiting reproduction and the lowest tenth overproducing their kind, yet we feel that we have the right to a more optimistic attitude than some writers would allow us.

McDougall[3] is one writer who with characteristic vigour has brought forward these three points of the proportion and number of mentally inferior people, the heredity of mental defect, and the selective birth rate among the intelligent, and has founded upon them dire prophecies as to the approaching end of this nation and of the civilization of which it is the main upholder. He sets out his belief in no uncertain terms. "Our civilization, by reason of its increasing complexity is making constantly increasing demands upon the qualities of its bearers; the qualities

[3] McDougall, W., Is America Safe For Democracy?

of those bearers are diminishing or deteriorating, rather than improving." To this we would reply that it is probably sadly true except for one consoling fact, that the number of standard bearers of our civilization is constantly increasing, and the upper tenth of the population, despite the denials of some of the eugenists, is constantly being fed from below.

The best possible proof of this is the history of the United Kingdom of England, Scotland, and Ireland. Beginning no further back than three hundred years ago, three tremendous streams of emigration set forth from her shores, one to America, one to Canada and a third to Australia, to say nothing of South Africa and the many British island possessions. Now this emigration has certainly not been predominantly or even significantly a movement of the upper intellectual tenth but rather of the common stock. Those who belonged to the upper classes who went to these far away countries were mainly younger sons and ne'er-do-weels but their number was relatively small. At the same time while Great Britain was contributing these streams of her common blood to people new countries, she was policing vast areas of her far flung empire and that too with men selected from her better classes. India, Egypt, Africa received their governing classes directly from Great Britain. And until that Empire became stabilized, and its frontiers secured, it was literally true, as Kipling wrote, that

> "Never the lotus closes, never the wild fowl wake
> But a soul goes out on the West Wind, that died for England's sake."

Also, within this same period of emigration came the struggle with America and the Napoleonic wars, all draining the national strength and sapping its vigour. Yet what are the consequences? Has this process of national deterioration become so apparent in Great Britain? But

why should it, if this stream of colonization did not proceed from the higher, but rather from the less intellectual classes of the population? Then we must turn to the peoples that are the descendants of these early immigrants for light on our question. Do we find these to be nations of mediocrities? By no means, for the stratification of abilities is just as marked in the Canadian, Australian and American nations as in the English. There is surely no dearth of scientific, professional, literary, or artistic ability in these countries. Further, we would venture the assertion that in very many cases a great number of those of outstanding ability in these communities trace their descent directly from people of very common and ordinary stock. Or we may take a still more striking example of this sudden accession of human ability. The Japanese in California in the vast majority of cases came there to do very menial and low class labour and were predominantly of the coolie class. Their period of residence has certainly not been more than fifty years. Yet in Darsie's[4] examination of Japanese children in California the occupations of the parents are classified by Taussig's scheme as follows:

1. Professional men and managers of large businesses 8.4%
2. Managers of small stores, hotels, etc. 26.1%
3. Skilled labourers, tailors, carpenters, mechanics, etc. 8.4%
4. Semi-skilled labourers, waiters, janitors, barbers, farm tenants, etc. 40.6%
5. Unskilled labourers 16.3%

Here is the social ladder operating with a vengeance! Already nearly ten percent of these people have reached professional status. And in Hawaii where opportunities

[4] Darsie, M. L. Preliminary Report on the Mental Capacity of Japanese Children in California.

have been less and the time of residence shorter we have found a somewhat similar stratification proceeding, except that a relatively larger percentage has reached the third classification of skilled workmen[5].

Here then is what we would consider an important question for the race pessimist to consider. What would the history of Australia, Canada and America have been if only men of a certain high level of intelligence as measured by, say, the army mental tests or the Stanford Binet had been selected as colonists? Since from this class the writers, the professional men, the engineers, the inventors are supposed to come, the assumption is that the lower classes, who do all the manual labour, could easily have been done without. The problem of supplying labour-saving devices could surely have been left to the ingenuity of the high I. Q's.[6] But even if this were true are we by any means sure that these people would have had the hardihood, the courage, the persistence and the common sense needed in a new land? In all probability these communities would soon have been sick of acute intellectual indigestion because of the lack of the stabilizing influences of qualities and abilities not taken account of by the tests. However, it is probably quite needless to conjecture what would have happened under these circumstances. The fact remains that the migration to these countries was a migration of common people. These young nations with their proud record of achievement are by no means grafts from the upper flowering branches of society but from the common stem. Nor can it be claimed that their high achievements are wholly due to the leadership of men descended directly from the upper classes. Abraham Lincoln, the most notable leader of the century, was born of common stock. Good blood there was undoubtedly

[5] See Chapter IX.

[6] An abbreviation for intelligence quotient which is the ratio of mental to actual age.

in these sturdy pioneers, and undoubtedly good blood tells, but apparently it can stand a considerable admixture of common blood before it loses its potency. To those who would reduce human heredity to the simplest Mendelian principles we would point out how inter-related human stock is, and that if it takes many generations of normal mating to breed out a neuropathic taint, then it may take a long, long time to breed out a strain of superior blood. The evidence that intelligence is transmitted as a unit character is not, in the light of our present knowledge, at all convincing.

Why, then, it may be asked, does not the social ladder operate in older countries to the same extent as in the new? The answer is that life in a new country gives opportunity for the influence of the very many traits of character, temperament, and intelligence that are not uncovered by an army mental test or a Stanford Binet examination. Courage, determination, resourcefulness, persistence in the face of odds, are at a premium in a new land whereas, in the older communities, they have but a limited scope. In the new land all the latent potentialities that were obscured by life in a settled society have room to grow and develop. Commonsense and a well-balanced judgment, foresight and prudence are found to have high values as well as the more literary and scholastic types of ability. Then, later on, when there is sufficient scope for these latter types of ability to function successfully, those who possess them come very quickly to the front, much more quickly than would be possible in the mother country where the front ranks of the professions are already full. In the new land it takes just as much effort and just as much intelligence to enter the ranks of one of the higher professions as it does in the older countries; but the road to the top lies open and many are able to avail themselves of opportunity because their parents have

reached an economic independence impossible of attainment in the country from which they originally migrated. Life in a new land means the tapping of a flood of ability at new and lower levels. From thence it comes welling up with all the force of new ambitions and with all the pressure of an inheritance of common every-day virtues and disciplines behind it.

But the objection may be made that there are no new worlds to be discovered and peopled and that these unusual opportunities for latent talent to come to light are gone. It is true that, geographically, there are no new worlds to be conquered, but industrially and scientifically there are new worlds opening up on every hand. The very complexity of civilization means a diversity of opportunity for the common man's intelligence that was never to be found before. Though it may be granted that professions such as psychology or medicine have become so complex that it is in the power of very few to have an adequate grasp of all phases of the subject, yet this very complexity and amplification makes it possible for men to do valuable work in certain somewhat limited fields through the possession of special abilities which, at one stage of development of the subject, would have had no opportunity to function. As an example we may take the relation of statistics to psychology. At one time mathematics had but little relation to psychology but now it has a definite function. So, too, in the world of industry there are more and more opportunities for specialized abilities to function and for men to find their own particular niche of usefulness.

Before this age of rapid transportation with its wonderful multiplication of the means of locomotion by electrical and steam driven machinery, who would have dreamt that there would have been sufficient mechanical ingenuity available in the lower industrial ranks to cope with the situation? How many men are there doing skilled work

today who, if they had lived one hundred years ago, would still have been of the industrial status of Millet's "Man with the Hoe?"

It may also be objected that the increasing complexity of civilization, though it has not put any more serious burden on the shoulders of the masses, falls most heavily upon those who would undertake social leadership. But even in this respect the very magnitude and many-sidedness of the problems give scope for the activities and public interest of many people to whom social service would at one time have made no appeal. Where one Howard was all that could be found at one time to plead the cause of prison reform, now there are thousands ready to study criminology from the same humanitarian standpoint. Where one Wilberforce took his stand against the institution of slavery there were soon a million ready to stand in his place and to give their lives for the principles that he, in loneliness and disappointment of spirit, once enunciated. The voice that cries in the wilderness, if its cry is worth hearing, will certainly be heard, and even the unworthy false prophets have their following, so anxious are people to be led. Neither in Flanders' fields nor elsewhere do the poppies of self sacrifice bloom wholly in vain. Not that this optimism should ever be allowed to cloak a do-nothing spirit but at least there is no need for immediate despair for the future of the race because it has been found that there are so many people who are only average, and that average people have average intelligence. At least we may conclude that it is yet too early to predict the downfall of the nation through the multiplication of common people, until they are proved wanting by measures that take account of temperamental strength as well as intellectual weaknesses, and also until we have lost all faith in education as the means of developing that strength.

Part of the object of this present study is to emphasize the importance of the temperamental qualities in national or racial character and to describe some attempts to measure and compare some of these traits in various races.

PART II

HISTORICAL SURVEY OF RACES IN HAWAII

Chapter II

THE HAWAIIANS

In the previous section an attempt has been made to show the importance of racial studies, not only on account of their practical relation to many pressing domestic problems of this country but also because of their general scientific value. Though the investigations reported in this study have been carried out in a distant territory of the United States, they still have a direct reference to the problems of racial assimilation in general. Notwithstanding the fact that the racial amalgam has other elements in Hawaii than are to be found on the mainland, we believe that our studies may point the directions and in some part indicate the means through which similar investigations may profitably proceed elsewhere.

As we have seen, the Hawaiian situation is one that lends itself most admirably to the purposes of such investigations. The immense size and population of mainland America means that the identity of immigrant groups is quickly lost to sight in the mass. Racial fusion proceeds so quickly as to render scientific observation of the process extremely difficult. The river of migration to this country, huge as it seems, empties itself through a delta of a hundred well-worn channels. But this is not the case in Hawaii. There, in five main islands collectively a little less than the size of Connecticut and Delaware combined, are settled a quarter of a million people of many races. Hawaii has been suitably named the "cross-roads of the Pacific." It might just as aptly, from the racial standpoint, be called the world's convocation place of peoples.

If the original builders of the Tower of Babel, having found a key to their diversity of tongues, were to come together again to resume their labours, they would hardly be a more polyglot group than the people of Hawaii. The first wave of migration that spent itself on the shores of the Yellow Sea, the second wave that covered Japan, and the third wave that lost itself in the Philippine islands, have now been caught up together in another eastward tide that has overtaken and swamped the original Polynesian invaders of Hawaii. There it has met and been stayed by the vanguard of the peoples of the West, Anglo-Saxons, Germans, Russians, Portuguese. Having girdled the earth, European and Asiatic meet again on the soil of Hawaii. To these are now added the Porto Rican, bringing Heaven knows what strange mixture of Spanish, negro and Carribbean blood, while as off-set to these comes the Filipino—Malayan, but with some Mongolian, some Spanish, and possibly some negrito blood. It would seem as if the seed of all the world's adventurers, Spanish and English and Portuguese, were gathered together in this place. Brown and yellow, white and black—all the human colours are represented here. It would be remarkable indeed if a people compounded so strangely had not an interesting future before it, and was not worth some study as regards its racial elements.

These hitherto widely dispersed groups have now been gathered together into an environment as richly diversified from the physical standpoint as the people themselves are from the racial. Within this narrow geographical compass are to be found all the varieties of temperature from sub-tropical to Alpine, all gradations of rainfall from intensity to scantiness. Fertility and variety of production are natural consequences of these conditions so that an almost optimal environment for physical development and racial preservation exists. Each group may find circum-

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stances in which it can retain its national customs as regards diet, clothing, occupation. On the fertile plains near tide water, the Chinaman may dig his ditches, set up his primitive wind and water wheels and watch the rice-spears in hollow squares checker the moated marsh lands. In the warm coral seas the Japanese and Filipino fishermen find a myriad of fish as varied as those known to their own coast lines. These circumstances, ideal in their physical variety, provide opportunity for each race to preserve its own habits and customs of life, and thus are important in their tendency to slow down the processes of national disintegration and reassimilation. On the other hand is to be found the unifying influence of a common school system in which the children of all groups meet in play and work and are instructed together in the one language. Japanese, Chinese, and Portuguese language schools have existed for the purpose of supplementing the work of the public schools by instruction in their own respective tongues, but these are rapidly disappearing. The public school system is of course the most effective reagent in breaking down international barriers. However, despite this influence, race-consciousness fortified by differences in colour, religious customs, temperament and general mental and moral outlook is sufficiently strong to bring about a retardation in racial amalgamation which is important for the purposes of scientific study. Another factor which has lowered the temperature of the Hawaiian melting pot is that there is no well stabilized civilization developed by a numerically important indigenous population which might form a mould into which the new racial elements would flow and solidify in pre-appointed forms. The dominant influence has of course been that of the Anglo-Saxons but, numerically speaking, this group is not overstrong. It has provided leadership for the Territory but few of the rank and file. It is perhaps well to re-

iterate that, with the exception of people of our own race, there has been a unique equality of opportunity for each of the groups in Hawaii, both as regards actual physical environment and equivalence of social conditions as well. The runners have all started from the same mark and the race will be to the swift and the strong. In other words the place in the community that each racial group attains will be determined, not by the weight of the environmental handicap, but rather by the mental, temperamental, or character traits which each possesses.

But before we attempt any evaluation of these traits it will be necessary to present the evidence of this equivalence of opportunity and social status of the groups. To do this it is desirable to sketch briefly the history of Hawaii in so far as it concerns the coming of each of the immigrant groups and their reaction to local conditions. Thus the proper sociological background for our investigations will be provided. At the same time it will be necessary to indicate, in part at least, the degree to which inter-racial fusion has already proceeded, not so much as regards a physical admixture through intermarriage but rather in the way of changed outlook and habit of life. These observations are of course, empirical only, and not founded on any experimental basis. Before attempting this historical summary, however, it may be advisable to give a brief description of the people among whom the immigrants found themselves.

The native Hawaiians form one of the most interesting of Polynesian peoples. Their arrival in the Islands is lost to historic view, but anthropological research as carried on in the Bishop Museum has made sufficient advances to justify the hope that the course, if not the time, of their long migration eastward will shortly be determined. We know that they made very long voyages in their large canoes to other islands, steering by the stars.

This practice of deep-sea navigation and the desire to retrace the course of their early migrations bespeaks a courage and hardihood and love of adventure unusual in the temperament of most native peoples. To the early visitors to the islands the manners and customs of life of this people were of absorbing interest. Their heiaus, or cities of refuge, to which offenders against tribal law might flee, the custom of burying their dead in secret caves in almost inaccessible cliffs and mountain sides, their devotion to the ruling chiefs and kings, their love of ceremony and display, their readiness to invest all natural objects with legendary or mythical significance, their absolute subservience to the sway of the kahuna or priest—all these mark them as a people who have successfully emerged from the lower stages of culture but who still carry many of the signs and associations of the developing but immature race.

Their reaction to the impact of civilized influences was remarkable. The missionaries who came to the islands in 1820 found a people who were temperamentally well fitted for making new and rapid adaptations. Their response to the opportunities for learning offered by the new teachers was prompt. Not many years after the coming of the missionaries a decree of the royal council declared that "when schools are established all of the people shall learn the palapala[1]"—this law applying not only to children but to adults as well. By 1826 the schools had 25,000 scholars, mainly adults, while in six more years the attendance had grown to 53,000 and this out of a population estimated by census at 140,000. Hawaii was therefore one of the first countries to have a compulsory education law. A civil service requirement some years after provided that only literates could hold public offices.

This amenability of the Hawaiian to influences exerted

[1] Palapala—books, writings.

by the foreigner had evil as well as good effects. The Pacific was in those days an unpoliced sea. The common saying ran, "There is no God nor law west of Cape Horn," and sea-faring men lived up to the letter of this license. Kidnapping and outrage were common and many a wild tale of murder and piracy came out of the South Seas. Whaling vessels lay for weeks and even months off the harbors of Hawaii. Strange parts were played by white men in the fortunes of chiefs and kings of the Pacific. Kamehameha I., sometimes called the Napoleon of Hawaii, was materially aided in his conquest of the islands of the group by several white sailors. The association of such ungoverned spirits with the natives had some unhappy effects. Drunkenness became almost universal until a royal decree proclaimed a state of prohibition—a decree which by 1829 had become effective. The permeability of the Hawaiians to new ideas and customs and the increasing hold of the missionaries may be gauged also from the fact that the Christian form of marriage was early enjoined and by 1829 had become universal. Perhaps the final emancipation of the Hawaiians from their ancient superstition was most dramatically marked when a native princess stood on the brink of Kilauea's crater and openly defied Pele, the goddess who dwelt in Halemaumau, the House of Everlasting Fire, and to whom no Hawaiian who passed by the spot failed to render sacrificial tribute. And when the goddess, who, according to Hawaiian belief, had destroyed in 1820 the main part of an army, driving the survivors in headlong panic into the Kau desert, where their footprints, cemented and baked in the volcanic ash, are visible to this day, remained quiescent in the face of this challenge, the old religion lost its power.

While it is impossible to withhold credit from the missionaries for their untiring labours, still the progress of

the Hawaiians is as much a tribute to their own temperamental adaptability as it is to the zeal and intelligence of their teachers. How far their disposition and temperament have changed after one hundred years of contact with the whites is somewhat difficult to estimate. The Hawaiian of today is usually highly good natured and affable. He is addicted to physical sports and games of all kinds. Swimming is his natural pastime. In disposition he is extremely affectionate and particularly indulgent to children. He readily recognizes family relationships, though the curious custom of relatives or even friends exchanging children is still in practice.

In business the average Hawaiian is rarely successful. He seems to be rather devoid of the trading impulse. It has been noted that he will frequently put an exorbitant price on his possessions, or is just as likely to give them away outright. Though usually physically well-built and strong, it cannot be said that he is fond of continuous or monotonous exertion. Hard work without variety does not usually appeal to him. For a person of his make-up, politics is a profession ideally suited to his energies. Into this he enters with the zest of a game. Public position, especially if it gives him a chance to display his gifts of oratory, appeals to him. Many places in the public service are efficiently filled by Hawaiians or part-Hawaiians. Those who have lived longest among these people regard them with the utmost friendliness and even affection. In return the Hawaiians have a very loyal friendship and respect for the "kamaaina" or old resident, very different to the amused tolerance with which they regard the "malihini" or new comer. In fairness it should be stated that the strong ties of affection between kamaainas and Hawaiians are parallelled in some cases by an unreasoning dislike for, and prejudice against other races or nationalities. Possibly the preponderance in the population of the

Japanese has resulted in a cementing of the bonds between the Hawaiian and the white to form a defensive and offensive alliance. At any rate the present development and progress of Hawaii has its foundation in a very loyal cooperation of both peoples.

The easy-going good nature of the Hawaiian renders him today somewhat amenable to unhealthy social influences, just as it did in the early days of his first contacts with civilization. As a consequence he rather readily and heedlessly slips across the strict bounds that the law sets up. The statistics of crime[2] show that the Hawaiians or part-Hawaiians are second in point of number of convictions in proportion to population, being exceeded only by the Chinese. The crimes which they commit are, however, those which are liable to be committed by a people not wholly mature. Respect for property rights is not easily inculcated in a person who would readily give away his own possessions. "Tuum" is in their case in easy proportion to "meum." Larceny therefore figures very often on the court calendars. Gambling is also a frequent offense. The girls' industrial school is very largely filled with sex offenders. This, however, must be interpreted as the effect of under-inhibition rather than of exceptional strength of instinct, since it was a well known fact that for many years white women were safe almost anywhere on the islands. Crimes of violence were also comparatively rare amongst the Hawaiians. Generally speaking, the offenses they were prone to commit were faults of irresponsibility rather than viciousness.

Part of the criminality of the Hawaiian may have its root not so much in disrespect for law as in disrespect for jail. In one of the island districts it was well known that the punishment meted out to the evil doer was not so much in proportion to the crime as to the amount of

[2] See Table 2 and Figure 3.

work the sheriff required done. If he had a month's work in prospect then that was the sentence the prisoner received; if a week's work was available then that was the length of the incarceration. Probably incarceration is quite the wrong term, since the keeper of the county jail, being much annoyed by the late hours which the prisoners kept, put up a notice that all prisoners who came home after eight o'clock at night would be locked out. The threat was said to be fully effective.

An interesting comparison of the intellectual status of the Hawaiians with certain part-Hawaiian groups is contained in a report in 1903 by the headmaster of a large private school established for the purpose of educating boys of Hawaiian descent. Though the pure Hawaiians made up 31 per cent of the total enrollment, very few of them reached the upper academic grades. The Chinese-Hawaiians predominated in these grades, followed by the Americans and English Hawaiians, then by the miscellaneous white-Hawaiian mixtures, the pure Hawaiians being last. The observation was made however, that the Chinese-Hawaiians were not necessarily to be credited with the best minds. Intellectually they were of good average calibre, but it was their persistence in the face of difficulties, their docility and obedience to regulation, which made them such satisfactory pupils. On the other hand the "white mixtures", while they numbered among them boys of exceptional strength of character and intellect, were as a group much more likely to resent regulation and discipline and to weary of routine.

As regards capacity and willingness for manual labour the Chinese-Hawaiian excelled the other groups, 70 per cent of whom were earning their way through school either wholly or in part. Second to them stood the pure Hawaiians, 64 per cent of whom were earning their way. It is noteworthy also that it was the pure Hawaiians who

received least help from friends or relatives, the white mixtures receiving most. The situation is reviewed in the following interesting summary.[3]

"The pure Hawaiians exceed any of the mixed races in numbers. They stand second only to the Chinese in their capacity for hard manual work and their willingness to labour. They receive little aid from white people and less from their own people than any other group. They are, however, the least promising students in academic lines, and furnish the smallest proportion of individuals of marked strength. The Chinese-Hawaiians, in spite of the poorest home conditions of any of our students, stand first in fertility, in industry, and in self-support, and fill the highest grades in the greatest proportion, but they furnish a smaller proportion of marked individual characters than any other group except the Hawaiian. The white mixtures have the best home conditions and furnish the greatest proportion of strong individuals, but they are not so persistent as the Chinese, and they are more dependent than any other group upon aid from their people and from outside friends. The American-Hawaians, taken by themselves, have the best home conditions. The children of white fathers have, as a rule, poorer home conditions than those whose parents both belong to white mixtures. That is, the white fathers more frequently are missing from the home, so out of the boys' lives. Nevertheless, it is the children of white fathers who furnish the largest proportion of strong individuals."

It would seem from these observations that in the case of the Chinese-Hawaiian mixture the well-stabilized, docile and patient temperament of the Hawaiian tends to be transmitted to the offspring, the intellectual elements being largely contributed by the Chinese. On the other

[3] Proceedings—Honolulu Social Science Club.

PURE HAWAIIAN GROUP

(*Note:—This and all succeeding group photos are of children in attendance at the one school.*)

PART HAWAIIAN GROUP

(*Showing Different Degrees of Hawaiian Inheritance.*)

hand the restless, ambitious, and individualistic temperament of the white appeared to be dominant in the case of children of white-Hawaiian unions. The number of boys in attendance at the school was only one hundred and fifty, but the report was evidently based on experience with a larger number. The observations agree well with common experience in the Territory. The Chinese-Hawaiians are everywhere given great credit for their business stability and success. The Chinese mentality and the Hawaiian temperament are balanced excellently in this group. On the other hand leadership amongst the population is almost wholly in the hands of the part-Hawaiian with white blood. Ambition and force of personality bring these latter to executive positions of importance but as a group they lack the stability of the Chinese-Hawaiian. It should be noted that Hawaiian descent is almost invariably through the mother.

Chapter III

THE CHINESE

THE first comers to Hawaii found a very simple agricultural community rendering a species of feudal service to the ruling chiefs and kings. Out of each fortnight, three day's labour was given to the local chief and three days to the king's purposes. This service was rendered in tilling the patches of taro from which "poi" the favorite food of the Hawaiian was made, or in building the sea-walls which surrounded the royal fish ponds, or in snaring the birds whose scarlet feathers were made into the gorgeous coats and helmets of ceremonial occasions. With the coming of the traders the demand for sandal-wood became so brisk that probably for the first time, really arduous labour was imposed on the common people. We are told that unaccustomed exposure to cold and fatigue suffered in bringing the wood from the mountains took heavy toll of the lives of the Hawaiians. It is not improbable that lowered vitality due to the introduction of the white man's diseases was already a considerable factor in the decline of population.

Thirty years of white occupancy changed the primitive agricultural conditions materially. In the fertile valleys and gulches the sugar cane displaced the taro. The simple devices of the Hawaiian for flooding his lands gave way

NOTE:—The principal sources drawn on for the material of the chapters in Part II of this book are Coman's History of Contract Labor in Hawaii, unpublished papers of the Honolulu Social Science Club, the Reports of the Governors of Hawaii, and the Reports of the Bureau of Immigration.

to elaborate systems for irrigation in which mountains were tunnelled and streams were tapped and the water conveyed along many miles of ditches. The green of the cane crept further up the hillsides. Sugar mills were erected at the mouths of the gulches and ships sought precarious landing places along the coasts or received their cargoes down taut runways of wire cable linking them to the cliffs of the shore. The planters met all kinds of difficulties successfully until they were faced with one final problem that threatened the existence of the new industry. The native Hawaiians despite their great value as labourers on the plantations persisted in dying, and those who were left, although extremely capable workers, preferred the more engaging occupations of driving teams or herding cattle or sailing the high seas to the monotonous toil in the cane fields. By 1860 the situation had become acute, and those whose fortunes were one with the fortunes of the country eagerly scanned the labour horizon for help. There was at least one excellent project proposed. The islands of the South Seas seemed to be the logical recruiting ground for labourers. Their people were of the Polynesian stock; and the plan was that they were to be brought in large numbers so that in conjunction with the Hawaiians they might at one and the same time replenish the earth and till the canefields. Accordingly at various times about 2500 natives were brought from the Caroline, Danger, and other islands. But the scheme although fostered by the king failed to achieve its dual purpose. The Hawaiians showed little disposition to marry their cousins from overseas, and the South Sea islanders showed little more inclination to work on the plantations.

In the meantime, even while the re-population project was still being pursued, the supply of labour was too inadequate to keep the weeds from overcoming the cane.

China appeared to offer endless opportunities for obtaining labour and so the importation of coolies began, mainly from the Canton province in South China. This experiment was at first in the hands of the Hawaiian Agricultural Society but later was taken over by a specially constituted Immigration Board. From 1865 to 1886 upwards of 33,000 Chinese were brought in under the operation of this Board. The terms of the contract and the living conditions provided would not in these days seem very generous, but were perhaps quite adequate in relation to the ideas prevalent at that time as to the position of the Chinese coolie in the scale of humankind. Wages were to be four dollars a month for a ten-hour day in the field or a twelve-hour day in the mills—less than two cents an hour. The cost of recruiting and transporting each man from China was fifty-nine dollars, forty-one dollars of which was to be deducted from the labourer's wages, enabling him to earn in three years the clear sum of one hundred and nineteen dollars, food and shelter being provided. The single men were housed in barracks, six to forty men in a building, in which shelves or platforms running around the walls provided three feet width of sleeping room for each man, "the floor space being common property." The food provided was mainly rice, to which we are told "the Chinese add pork, vegetables and certain dried, salted, and otherwise preserved food from their own country." After all, as the immigration report remarks, conditions as provided were probably better than those which the coolie enjoyed in his native land..[1]

Altogether the situation was one upon which the planters were disposed to congratulate themselves and the

[1] It should be remembered in considering these conditions that they obtained at a time only shortly removed from the period when slavery existed in the southern states of U. S. A. Plantation conditions now present an extremely favorable contrast, the labourer's welfare being very well provided for.

future of the sugar industry seemed assured. The new labourers proved themselves "quiet, able and willing men" and apart from "a considerable disposition to hang themselves" were eminently satisfactory as workers. Recruiting agents were employed to select a better class of immigrants and medical inspection before shipping became the rule. Wages were later increased from four dollars to sixteen dollars a month without food. The men worked in gangs, "supervised by an overseer who directs the work, corrects mistakes, instructs the ignorant and stimulates the lazy." Quite possibly employment under a too-stimulating overseer may have been a factor in the above mentioned "disposition to hang themselves." In a burst of candor the report declares that "the plantations are not carried on primarily for the purpose of elevating the labourer to the standard of western civilization and morals any more than other corporations. True it is that influences in these directions are often present and have a marked effect in certain directions. Upon the coolie class of Chinese the effect is not perceptible."

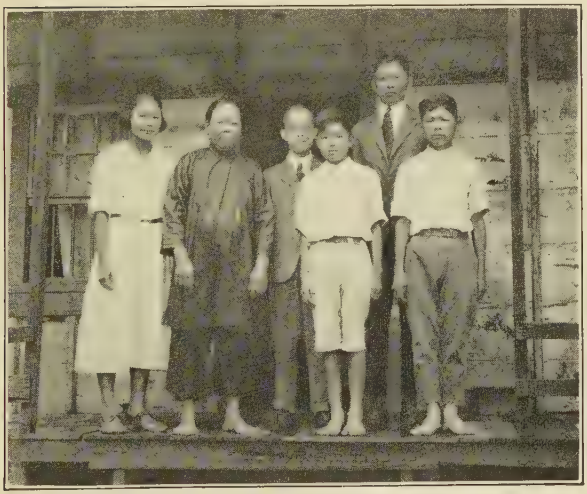
But of those who outlived their suicidal disposition, not many elected to remain as plantation labourers. In 1886, of the twenty thousand Chinese residents in the islands, less than six thousand were on the plantations. Three years later statistics showed that they had infiltrated every trade and occupation in the islands—62 per cent of the licenses issued for retailing merchandise, 84 per cent of the victualing and 91 per cent of the pork butchering were held by the Chinese. Of occupations requiring more capital 23 per cent of the wholesale merchandise trades and 51 per cent of the wholesale spirit licenses were also in their hands. Some at least of these businesses may have been held by Chinese not of the coolie class. Over 8000 of the Chinese came from the Pacific coast of U. S. and it is possible that some of these were possessed of a

little capital. But even allowing for this possibility the change in status of large numbers of the Chinese must be considered remarkable. By 1903 the value of the land in which the Chinese were interested as owners, part-owners or tenants was over $2,700,000.

This peaceful penetration of Hawaii by the Chinese, who so quickly dropped the plantation hoe for the tradesman's pencil or graduated in one generation from the canefield to the shop or warehouse, naturally excited the concern and even resentment of Hawaiians and others who foresaw the "orientalizing" of the islands. The taro patches that were not coveted by the cane grower were now being encroached upon by the Chinese rice fields. Soon a wave of indignation, moral and otherwise, swept the islands. The Chinese as contract labourers and as independent workers were two different propositions. The revulsion of feeling became quite marked and is reflected in the immigration board's reports. That of 1890 evinces quite pathetic distress over the fact that the Chinaman persists in being "a Chinaman as long as he lives. He retains his Chinese dress, his habits, his methods, his religion"—and crowning obstinacy—"his hopes, his aspirations and desires." Hope was evidently not expected to spring eternal in a Chinese breast, and "aspirations and desires" were unnecessary possessions of a plantation labourer. Worse than all this was the Chinaman's irritating self-satisfaction. "He looks upon foreign methods, appliances, and investigations with scorn as inferior to his own. He does not want to and will not adapt himself to the country where he goes but is and feels himself to be and acts as an alien temporarily banished from his beloved China to which he sends all his earnings and whither he follows as soon as he has acquired property enough to make him independent."

The personal bias of the author of this report is quite apparent. He does not want the Chinaman to remain

CHINESE GROUP



AH SING CHING'S FAMILY

because the latter is and feels himself to be and acts as a Chinaman, yet is equally aggrieved when he goes home. He hates him coming and going. He does not want him at any price. It is interesting to see how when the Chinese stock goes down the Japanese stock goes up. "On the contrary the Japanese are progressive. As soon as they get money enough after arrival in this country both the men and women adopt the European costumes and as far as they can, European manners." Despite the writer's somewhat unreasonable indignation at the Chinese ultra-conservatism, he has undoubtedly pointed out a very real difference in the outlook and temperament of the two peoples.

Chinese clannishness is another characteristic unfavorably commented upon. "The Chinese are secretive, systematically shielding and assisting Chinese criminals. It is but rarely that a Chinaman will testify against a fellow countryman and perjury to rescue another from the clutches of the law is looked upon as a cardinal virtue. The Japanese exhibit no such criminal clannishness."

As evidence of this characteristic the report goes on to instance the baneful influence of the "tongs" or Chinese secret societies whose membership numbered many thousands in the islands. The object and methods of these tongs were declared to be criminal and a number of murders instigated by them are mentioned. The statistics of crime bear out these observations. In the years 1891-92 the ratio of convicted criminals to race population was highest for the Chinese while six years later it was two and one-half times that of the Japanese or Hawaiians. Even at the present time the Chinese occupy an unfavorable position as regards criminality in comparison with either the Japanese or Portuguese.[2]

In the "eighties" agitation against further importations

[2] Cf Chapter IV.

from China reached its peak till finally public sentiment overcame the wishes of the planters. The objections against the Chinese are summarized in a report on labour conditions. "Public-spirited Hawaiians protested against their vices as a corrupting influence in the body politic, artisans complained that their competition was lowering wages and the standard of living. But the menace to public health involved in importing ship loads of Orientals was perhaps the argument that told most heavily against them." The last named consideration was naturally a weighty one. Whether it is a fact or not the introduction of leprosy into the islands was generally attributed to the Orientals, and amongst the Hawaiians it was known as the "Chinese sickness." This may well have increased the feeling against them. Hence we find the cabinet declaring that "the presence of Chinamen was a menace, not only to the industrial but to the social well-being of the islands." Their immorality, their secretiveness, their apparent disregard for human life, their imperviousness to western ideas were dwelt upon with much earnestness.

Accordingly in 1883 the first legislative restriction on the importation of Chinese was enacted and in 1886 an act excluding all except certain of the educated classes was passed. During the years following that enactment however, the regulations against Chinese immigration were relaxed, until just prior to 1898 large numbers of labourers were imported. Annexation of the islands by U. S. A. had the effect of final exclusion.

But the unpopularity of the Chinese as a group did not extend to them as individuals, at least as far as free intermarriage with the Hawaiians was concerned. Though thrifty they were apparently very kindly and generous in their treatment of women and evidently had little difficulty in marrying Hawaiian women who would prove good home makers. At any rate the combination was

most frequently a happy one. The strong sense of family duty and responsibility of the Chinaman combined with the affectionate home loving disposition of the Hawaiian created excellent conditions for the upbringing of the children. There is ample evidence to prove that people of this mixed ancestry were highly regarded. A writer well acquainted with local conditions writes in 1905—"The half Chinaman is found to possess many of the national characteristics of his father—a bright mind, thrift, industry, perseverance and a systematic purpose in life." Another observer says—"The marriage of Chinese men and Hawaiian women has been going on for decades with results approved of by all, for the offspring are generally regarded as superior to either parent, inheriting the good qualities of both."

The intensely individualistic attitude of the Chinaman together with his secretive habits have thrown a considerable veil of misunderstanding about his character. He is credited with the possession of certain traits that he does not possess to any marked degree and in other respects he has met with disfavour entirely unmerited. Notwithstanding his sudden and remarkable transition from coolie labour to independence, he does not possess as great an adaptability as would at first appear. As was previously pointed out, the process of racial assimilation even in Hawaii has been comparatively slow, giving opportunities for the gradual adjustment of the immigrant groups. Particularly was this the case prior to the annexation of the Territory by America in 1898. Since that time "Americanization" has been a more rapid process. The ambition of the Chinaman has been individual and private. His "systematic purpose in life" has not been in the direction of obtaining a better political or racial standing but almost solely in the direction of accumulating money. This has been possible not only because of his remarkable

frugality and singleness of purpose, but also because of the fact that he lived amongst a people whose needs were simple and thus could be met by the trading methods already known to him. That there is a great variability among the Chinese in respect to practical intelligence is beyond question. The extremes of inadaptability and successful adjustment may be found among them. The contrast between the progress which a well established Chinese commercial banking system typifies and the absolute stagnation shown by the primitive agricultural methods used by the same people in the rice fields is striking.

The popular idea of "oriental calm" and the absolute unemotional passivity of the Chinese is not shared by those who know him best. He is frequently very emotional though he succeeds rather well in hiding his real nature behind a mask. We have met with several interesting examples of this emotionality. A Chinese boy, one Ah Sing Ching, 13 years of age, won the prize for the best essay on "How can the American Legion best serve the nation." There was a most piquant incongruity in the situation—a child of an alien race, whose father is now a rice farmer and store clerk and who came to work as a plantation labourer in the mid-Pacific less than fifty years ago, to win a prize for an essay on such a subject open to national competition and presented by the American Legion!

When the principal of the rural school which Ah Sing Ching attended went to the boy's home to tell his parents of his success, she found at the house an elder sister and the mother. The cablegram announcing the award—a scholarship of $750 tenable at any American college—was first shown to the daughter who in turn explained it to the mother. The unexpected news proved too much and in exactly the manner of many American mothers under the same circumstances she promptly gave way to

ENVIRONMENT OR HEREDITY?

Ah Sing Ching—Winner of American Legion National Essay Competition.

(Photo by courtesy Alexander Hume Ford)

tears. The daughter too thereupon forgot her oriental calm and wept as well. Then the father was called from the rice field and when the situation was explained to him his emotions also proved too much for his passivity. After a little time the cablegram was read again, the tears were dried and the family became all smiles and laughter.

After all, the behavior of this family did not differ from what under similar circumstances would be observed in many a western household. Tears on an occasion of unexpected joy followed by a sudden transition to the natural expression of happiness are not indications of the stolidity or passivity of temperament associated in the minds of most people with the Chinese character.

Incidentally a very interesting contrast between progress on the one hand and racial conservatism on the other is provided by this household. They live on the edge of a rice field, in a rough shack built of deal boards, an altar and joss-sticks for ancestor worship having the place of honour within. The mother who speaks only Chinese is barefooted and wears the black-trousered costume of her race. On the other hand Ah Sing and his brothers—two of whom are accountants—have adopted quite naturally the dress, the language, and the ideas of the newer civilization.

Referring again to emotional characteristics, we may note that in taking anthropometric measurements in the schools, manifestations of nervousness or fear were very much more common in young Chinese children than in Japanese. Records were kept for a time while head measurements were being carried out and although Chinese children were in the minority, the proportion of young children showing extreme nervousness was nine Chinese to two Japanese. This does not mean that the Japanese are less emotional than the Chinese but they appear to have more self-control in the display of emotionality.

Chapter IV

THE JAPANESE

We have seen that although the employment of labourers from China had been satisfactory from the planter's point of view other factors in the situation which had not been reckoned with, eventually closed the labour market in that direction.

The Chinese, schooled by centuries of privation to patient and persistent effort, had also developed elements of self-determinism and conservatism in their character which made them, as a group, unpopular in any community alien to themselves. In the meantime the cane must grow and the mills grind. The planters naturally turned their eyes to Japan for labour. Here was a people persistent as the Chinese but more progressive; keen eyed also for opportunities of individual gain but with a national consciousness and love of country so well developed as to make it seem unlikely that they would obtain such a limpet-like hold on the new country as did their fellow-orientals. With no love lost between the two peoples it was doubtless felt that their influence would counterbalance or even nullify that of the Chinese.

Accordingly negotiations for the importation of Japanese were begun. But the Bureau of Immigration found that it had to deal with a government which even in those days was remarkably sensitive regarding the status of its subjects in other lands. Its officials expressed themselves as "decidedly averse to any scheme of contract labour that seems likely to place Japanese subjects in a position similar to that of the Chinese in Peru, Cuba or even California."

The bargaining resulted in the Japanese coming under more favorable conditions than were granted to the original Chinese labourers. Wages were to be nine dollars a month with food, and fifteen dollars without; free passage from Japan to be granted to the immigrant and his family. It was expressly stated in the agreement that no employer or overseer should strike a Japanese labourer. This stipulation was stated to be most important "considered in the light of the sensitive nature of the Japanese race in particular which renders any rough handling of the labourers abortive if intended to secure obedience."

From 1885 to 1900 approximately 70,000 Japanese were brought into Hawaii. These, as they were expected to do, returned to Japan in large numbers at the expiration of their contract terms. In the seven years following 1900 about 40,000 entered the Territory and these formed the nucleus of the present Japanese population of Hawaii. At the present time there is a large number of children in the public schools who were born in Japan. Any comparison of the economic, educational, or social status of the Japanese with any other race in Hawaii must take into account the fact that they are comparatively late arrivals whereas the Chinese and Portuguese are the descendants of those who entered Hawaii at least one generation in advance of the present Japanese population.

For the purpose of this study we need not further concern ourselves with the history of the original Japanese immigrants except to point out such mental and temperamental differences as became apparent to those who had long experience in dealing with the two Oriental races.

It was not long before the planters discovered that they were dealing with a people of very different temperamental fibre from the Chinese and that the methods of handling labour which had been extremely successful hitherto had to undergo a change. From the first ship-

ment of 720 Japanese, according to the Bureau of Immigration report, came more complaints than from the 30,000 Portuguese and Chinese labourers previously imported. From the very beginning they demanded different treatment. One very significant fact was their unwillingness to work under white or native overseers or 'lunas.' They would do better work if directed by men of their own nationality who, the report adds, "were quite competent and trustworthy." Yet we are told they could be "led by the silken threads of kindness," would work beyond the stated hours in emergency and showed initiative and resourcefulness in repairing their own homes or in raising vegetables, pigs and fowls to supplement their wages.

As time went on it was recognized that this independence of spirit had to be reckoned with. "From the outset," says Coman in her review of the labour situation, "they were difficult to deal with, proving to be restless and self-assertive to a degree hitherto unknown in the canefields of Hawaii. They were moreover remarkably clannish, clubbing together for the championship of their common interests in a way that was distinctly embarrassing. They showed no disposition to marry Hawaiians and while readily adopting American dress and ways, cherished allegiance to their native land with peculiar tenacity. They found their way into the skilled trades even more rapidly than the Chinese." Further tribute to Japanese ambition and independence is given in another paragraph. "As a race, these men are restless and ambitious and eager for change. In marked contrast to the Chinaman who is patient and industrious, the Japanese is quick to take offence, ready with his fists and altogether a difficult and unreliable employee. He has no sense of loyalty to the planter and requires constant oversight."

There was abundant evidence to show that it was some

JAPANESE GROUP

KOREAN GROUP

time before a better understanding of Japanese psychology caused a readjustment of methods of dealing with them. The report of the Bureau in 1899 makes an eloquent effort to show that the labourer's lot was easy and his burden light. "Now what," it asks, "are his hardships? The main one is compulsory work under a master. Here the law compels. At home, need held the whip. They expected to work when they came but the comparison with free men as to compulsion turns this into a hardship. Generally they are contented." Then the report goes on to depict a pleasant picture of plantation life in which the sewing machine at work, the simple laundering that goes on all day, the mother working with her babe near at hand, and the happy chatter of women's tongues are instanced as the signs of contentment. "There is food enough, a place to eat and sleep and live in, equal in comfort to that which they have left behind. Conveniences are multiplying. The labourer returns to his home in the evening and every repression is relaxed. Sunday is a day of rest indeed in most cases. The barber is in demand, clean clothes are donned and the pipe and cigarette lend solace."

Recreation too is not lacking — wrestling matches, peculiar dramatic entertainments, gambling games. What more, indeed, could the labourer demand? But there is another side to the picture. "But let some real or fancied grievance break the monotony and the scene changes. A tin can is beaten noisily to alarm and summon the camp. The motley crowd gathers — generally at night. The leaders harangue their followers and the mob, most of them ignorant of the real cause, rush off to demand redress or to punish the offender. The grievance to the individual the crowd makes their own." If the writer of the report had stopped here, his hold on our sympathy would have been assured. Unfortunately for him he goes further—and tells too much. "The grievance is generally

an assault by the overseer upon some labourer, a fine considered unjust, compulsion used to obtain unwilling work, or a privilege withdrawn. A severe overseer will render all discontented and the boldest will desert."

After all, the alarums and excursions and general commotion which the writer describes are, with the possible exception of the tin can as tocsin, precisely those which might be expected under similar circumstances from men of our own race. Even babes and barbers, sewing machines and the happy chatter of women's tongues would be insufficient compensation for fines and compulsions and the severities of an overseer. That surprise, however mild, is expressed that such grievances should engender resentment is eloquent testimony to the fact that the Japanese had neither the plasticity nor placidity of temperament which the planters were formerly accustomed to find in the contract labourer. On the one hand was the Chinaman plodding away at his allotted task, accepting the burden which centuries of use had laid upon his shoulders, unwilling or unable to follow new leads or fearing to face new situations, hating notoriety and the unaccustomed, and clinging fast to the old traditions and ways—essentially the feminine temperament. On the other hand we get a picture of the Japanese—self-assertive and anxious for a larger place in the sun, eager for any adaptation that will advance his ambitions, selfish in outlook and not given to over-scrupulousness, sensitive as regards his self-conceit, yet exhibiting wonderful tenacity of purpose and self-control in meeting new difficulties—essentially masculine characteristics. Both races are covetous, the one for wealth, the other for power that wealth enjoys; both patient, the one with the restraint of repression, the other with pride; both tenacious, the one of old habits, the other of new ambitions—is it any wonder that the two races should develop in different directions and that they should

exert a very different influence in the community in which both reside?

Considering the temperamental qualities of the Hawaiian it is little wonder that in his development his ambitions should harmonize well with those of the ruling whites. There was a natural alliance between the two races. The Chinese, because of their intensely individualistic viewpoint and the peculiarities of their temperament, exerted little influence as a group in the Territory but like "Ben Jonson his best piece of poetry," their greatest contribution was the Chinese-Hawaiian sons they gave to the country. But between white and Japanese there was an inevitable clash of temperaments. The latter was too adaptable and too ready to seize and turn the white man's own weapons against him. Such a condition was apparent immediately on the annexation of the islands to U. S. A. This put an end to the contract system of labour and the United States sheriff so informed the labourers. Immediately there was an epidemic of strikes. Of twenty-two strikes in 1900, twenty were undertaken by the Japanese for such objects as increase of water supply at dwellings, payment of damages to injured employees, increase of wages from $17.15 to $20 a month, substitution of Japanese for white overseers, and observance of holidays. This sudden advent of full-blown trade unionism, we are told, took the planters entirely by surprise and it was only by immediate concerted action of all plantations that a uniform scale of wages was adopted.

Another evidence of Japanese foresight in anticipating a situation and incidentally of their intensely nationalistic point of view is shown by the establishment and support of so-called language schools. Until about 1908 the tide of Japanese migration ebbed and flowed in equal measure between Hawaii and Japan. In anticipation of their own ultimate return many of the Japanese elected to send some

at least, of their children back to Japan to be educated by their grandparents. But this proved to be a plan fruitful of much disappointment. The grandparents complained that the children were not Japanese in language, manners or tastes. They could neither read nor write Japanese and hence could not enter their own schools. But if the children continued their school training in Hawaii then the division between their ideas and those of their parents was just as clear cut. The ready adaptability that had enabled the parents to draw away from plantation labour now threatened to carry the children out of reach of their parents. English was becoming their natural language and the parents found difficulty in understanding their own children. To counteract this condition Japanese schools in large numbers were established and supported by the parents, the classes beginning their work immediately the public schools closed for the day. Instruction was of course given exclusively in Japanese. Recognizing the burden that was placed on the children and the nationalistic trend of the whole project, the Hawaiian Government acting on the advice of the Federal School Survey first regulated and then diminished the activities of these schools. The Japanese displayed their usual tenacity in the matter and the whole question has been a cause of prolonged dissension.

Japanese efforts to preserve their racial identity and influence are also illustrated by the way in which they have set their faces against intermarriage with other races, particularly the Hawaiian. Here again the strength of their racial sentiment is beyond question. In 1914, out of 1806 Japanese marriages only six were outside of their own race. In 1915 five Japanese married out of their race and the following year there were twelve inter-racial unions out of 1314 total marriages. Gulick came to the conclusion that out of 30,000 Japanese marriages in the

islands there were only 100 in which the wives were Hawaiian.

Economically and industrially the Japanese have obtained a firm foothold in the Territory. Their total assessed wealth in 1903 was less than half a million dollars. In 1922 this had increased to eleven millions. Over 2000 Japanese paid income tax in that year and 21,000 had savings accounts. During the years from 1914 to 1922 about eight million dollars was sent in money orders to Japan. Considering the comparatively short residence in Hawaii of the present Japanese population, their financial progress must be considered substantial.

In view of the fact that the large majority of the Japanese who originally came to the islands returned to their native country it may possibly be assumed that the present population is of a better social class and that comparisons between their children and those of the Chinese would not on this account be fair. There is abundant evidence to show however, that the Japanese arriving since 1900 were, with few exceptions, of the peasant or labouring class. In the twelve years prior to the Gentlemen's Agreement (1908) nearly a quarter of the total Japanese immigrants into U. S. A. could neither read nor write in their own language. The opportunities in Hawaii at that time being almost entirely agricultural, the Territory absorbed most of these illiterates. Gulick — an observer with a very favorable attitude to the Japanese—states that the vast majority of Hawaiian-Japanese were peasants with very limited education in their own language and that their opportunity, time and capacity for study were of the lowest. He further states his opinion that probably not five per cent of them could qualify for naturalization. There appears no reason to consider the Japanese at present resident in the Territory to be of any better social or industrial grade than the other immigrant groups.

Be this as it may, there is no possible question of the eagerness of the Japanese to obtain schooling, all the educational opportunities that Hawaii offers being readily availed of. The primary school classes are crowded and truancy is unknown. There is frequently a tendency observable among the parents to overstate the age of their children in order to get them to school at an earlier age. Discipline is extremely easy and the teachers frequently remark on the earnestness of purpose and the seriousmindedness of the Japanese in their educational work. Like most people who have been denied educational opportunities they are prone to over-value formal instruction and the printed word. That which is imperfectly understood can be perfectly memorized and this plan of study is often followed by the Japanese student who will learn by rote long passages from books or lectures. Even among university and high school students, imperfect knowledge of English is to be found, but despite this handicap they frequently make excellent grades. Their industriousness and capacity for long study are remarkable so that persistence tends to make up for any inferiority of learning capacity.

Summing up the outstanding traits of Japanese character as these have been brought to attention during their stay in the Islands, we may say that collectively they are intensely race-conscious, ready to combine for any purposes of group advancement, aggressive and rather untrustworthy when self-interest is in question. Individually they are extremely adaptable, ambitious and persistent and emotionally self controlled.

Chapter V

THE PORTUGUESE

THERE is no reason to doubt that the planters were always fully aware of the disadvantages of bringing large numbers of Oriental labourers into the Territory. The Chinese, however satisfactory as contract labourers, were not, for many reasons, as desirable as a permanent element in the population. The disadvantages of having a large Japanese settlement were also not overlooked. If European labourers could possibly have been secured from any source, the planters would certainly have preferred them. But the work that offered—ditching and digging, cutting and loading the cane in the wet fields—was the kind of labour that would be undertaken only by those whom necessity drove to the work and was not likely to be attractive even to the poorer class of European labourer. However, some of the islands of the Atlantic such as Madeira and the Azores, were, like Hawaii, of volcanic origin, their soil fertile and well-watered and their climate and production consequently similar to those of the Pacific islands. Their people were for the most part Portuguese but with a considerable mixture in some cases of negro or Moorish blood. As they lived in agricultural communities where all the available land was tilled, and in addition held in large holdings, it did not seem unlikely that the surplus population could be easily induced to emigrate.

Accordingly, negotiations through an agent were begun and a shipload, generally referred to as the "Priscillas" after the name of their vessel—eventually reached the islands. These were followed by another shipload and

from 1878 to 1888 over ten thousand were brought mainly from Funchal and the Azores. But the new importations were at first not at all what the planters expected. The terms offered had been much more generous than those given to Orientals. Passage money had been prepaid and employment guaranteed at $10 a month for men and $6 to $8 a month for women, with food, lodging and medical attendance free.

The percentage of women was to be not more than forty and the number of children in the family was to be strictly limited to two. Unfortunately the Portuguese proved quite conscienceless in these respects. They not only quite heedlessly stepped over the bounds as regards the size of their families but in addition to their wives, brought their mothers and aunts as well. This philoprogenitiveness threatened to ruin the success of the experiment, but eventually an arrangement was made with the planters so that children from 12 to 15 years of age could be employed at from $4 to $6 a month so that big families instead of increasing the employer's obligations as regards housing and food were actually helpful in meeting the labour shortage.

But the most serious difficulty was that these new immigrants were not of the right class. The employment and immigration agent was at first very much distressed that the new arrivals were "coopers, tinsmiths, clerks, blacksmiths, and everything but labourers." In a letter to the agent in Madeira he utters some very bitter complaints. "We sent for labouring people," he writes, "and today our streets are full of Portuguese, dressed in black suits, silk hats, silk dresses and jewelry in profusion. From our experience of the 'Priscillas' and of this importation I begin to doubt there being any labouring class in Madeira." To induce such people to take kindly to plantation work and conditions was naturally a matter of

PORTUGUESE GROUP

SPANISH GROUP

difficulty. Being mechanics, in many cases they demanded higher wages. In the mean time the Government was put to the expense of maintaining them.

In the long run however, the experiment was certainly successful both from the country's and the planter's point of view. The new labourers proved themselves so satisfactory that the planters were constrained to offer them still higher wages until sixteen dollars a month without food was the standard wage. Eventually they became the highest paid labourers of any race. An enquiry made amongst the planters in 1888-1890 proved their popularity. No less than 40 per cent of the planters indicated their preference for Portuguese for general plantation work whilst 24 per cent preferred Chinese and 21 per cent Hawaiians. For field work the largest number (48 per cent) preferred Chinese, the Portuguese coming next in favor. In the mill work 63 per cent preferred Chinese, 21 per cent Japanese and only 12 per cent Portuguese. In the care and handling of animals 68 per cent preferred Portuguese. These figures appear to show a great aptitude among the Portuguese for outdoor work. Unfortunately for the sugar industry the supply of Portuguese dried up at its source and, whilst the vast majority of those who came remained, they did not stay on the plantation beyond the term of their contract. But the planter's loss was the Territory's gain. These people proved themselves good agriculturists and thrifty and efficient home makers. In this latter respect they were much superior to the Japanese. Gulick notes the better appearance of their homes. "The apparent indifference," he remarks, "of so many Japanese families as to the appearance of their homes, whether within or without, is a matter of surprise. Japanese in the islands are distinctly inferior to the Portuguese in this respect although superior to Filipinos. Portuguese villages appear as a rule, attractive,

being well provided with trees and flowers while Japanese villages as a rule are unattractive."

Further evidence of the value which was placed on Portuguese labour is adduced by a comparison of wages. As contract labourers the Portuguese came first, the Hawaiians second, the Chinese third, and the Japanese last. As free labourers the races were in the same order except that the Japanese were third in order, displacing the Chinese.

The labour reports of the time bear frequent testimony to the industry and skill of the Portuguese. Hence we may accept the conclusion that they were at the time of their arrival of a higher industrial status than any other immigrant group. Socially speaking, they had a decided advantage. From the standpoint of morals some of them were of indifferent standards. It was a commonly accepted idea that they possessed a rather wide "yellow streak." They tended to lack the physical courage and hardihood of the Hawaiian and the aggressive alertness of the Japanese. It was a prevalent idea in the Territory that Portugal had for some years used its island possessions for the deportation of political and other prisoners and that therefore it was not at all improbable that bars, sinister and otherwise, might figure largely in their hereditary coats of arms. In the so-called "black Portuguese" mainly from the Cape Verde islands there was a considerable mixture of negro blood. Be that as it may, the Portuguese in Hawaii should probably not be considered representative of their race. There is however a rather wide variability in the group both as regards intellectual and social status, some being of considerably better status than many of their fellow nationals.

Speaking generally, there are certain rather well defined characteristics that are attributed to the Portuguese in Hawaii. They are recognized as being thrifty and

saving to the last degree, careful and neat as regards their houses, with interests generally directed towards mechanical or agricultural pursuits and transportation. As regards formal education their progress is usually limited, scholarship of high order being the exception. As regards personality and character traits they tend to be volatile, impulsive, quick tempered, rather obtrusive, suggestible and poorly inhibited. Their general temperament thus has in it some elements of instability. On the other hand they are sober, hard-working and respectable people and as a group must be considered a decided acquisition to the permanent population of the Territory. Marital infelicities and divorce are common but nevertheless the social morality of the Portuguese is good.

Chapter VI

THE FILIPINOS

THE relation of the Philippine Islands to U. S. has made possible the free movement of Filipinos to and from Hawaii. Consequently when the Gentlemen's Agreement with Japan cut off the supplies of Japanese labour at its source, the sugar and pineapple plantations were able to fill their depleted labour ranks by the importation of large numbers of Filipinos, over sixty thousand in all. Of these a large percentage have remained so that the present (1925) population is over forty thousand. Though their period of residence in Hawaii has been comparatively short, they have been so prominently before the attention of the community that their traits of character are fairly well known.

There are three divisions of the Filipino people well represented in Hawaii, the Visayan, the Tagalog and the Ilocanos. The two former were recruited mainly from the neighborhood of Manila and south of Luzon while the Ilocano comes from provinces of the extreme north, Ilocos Sur, Ilocos Norte and the Cacayan Valley. Experience has brought to light distinct differences in the people of these three divisions. The Visayan particularly is decidedly improvident and shiftless. In tropical climates the shiftless and incapable can exist almost as well as the provident and far-seeing. In addition to this lack of stimulus in the physical environment, Spanish rule did not tend to produce independence of thought and action. The Spanish friars, who were the real conquerors of the Philippines, managed the people and their concerns much as if they were children so that it might be said that

Spain ruled the Filipinos by the rod rather than by the sword. Her standing army was almost unbelievably small to hold such a large and restless population in check. If it had not been for the hold that the friars retained on the natives, Spain's sovereignty would have been very insecure.

The Visayan's lack of planning capacity and foresight is so pronounced that he is likely to lead an altogether hand-to-mouth existence without any provision for the morrow. His ambition is to live as nearly as possible like the lilies of the field—without toiling or spinning—and yet to be arrayed like Solomon. If this is impossible, then the next best thing is to live with as little labour as he can contrive. If left to his own devices the Visayan labourer works just as long as he must and no longer. If ten days' labour will suffice to keep him in idleness for the rest of the month then he will work ten days and no more. Outside of fine raiment his needs are simple, enough money to indulge a few sporting proclivities such as gambling and cock-fighting is all he needs. In order to stimulate Filipino ambition, the plantations have found it necessary to institute what is called a "turn-out bonus" which is a percentage added to the labourer's wages if he turns out to work at least twenty-three days in the month. Even this is often ineffective, a very close watch needing to be maintained on individuals in order to keep them at work even under these conditions. The Filipinos would very much like to have this "turn-out bonus" done away with and the amount added to their basic wage but the result of paying them more would simply be that they would work less. Another evidence of Filipino lack of foresight is that they work very much more contentedly if they are paid twice a month instead of once and even better still if they are paid weekly. The reward that seems a long way off is as good as none to them.

The Ilocano on the other hand is much more thrifty and industrious than his compatriots, but his planning capacity is rather near sighted. In preparing for the needs of tomorrow he is very likely to forget today. When new labourers are imported they are at first given credit for food at the plantation store. One group sent all their first wages home to the Philippines and then left work to live on the beach. They stated that they wanted to work but couldn't because it took them all day getting enough fish to live on. Other Ilocanos have been known to live on the cheapest and least nutritious food until they were quite incapable of steady work. Their ambition is to own land at home and their avarice is very similar to that of the Chinese. Like the latter, their group cohesion is not strong. They will rarely go out on strike unless forced to do so by threats. They have the reputation of being less courageous than the rest of the Filipinos, in this respect again resembling the Chinese. On account of the proximity of their native provinces to China it is very likely that they had originally a larger mixture of Chinese blood.[1]

[1] Some of the Ilocanos account for the mixture of Chinese blood in their people by claiming descent from the followers of Limahon, a noted Chinese pirate. In the early days of Spanish occupancy of Manila, Limahon descended upon the city with a large fleet and by a surprise attack managed to take and sack it. On the appearance of Spanish reinforcements Limahon withdrew his fleet and army northward to the Pangasinan river where he built a fort and established himself in the country. The Spanish however, followed him up, surprised him in turn, burned his fleet and blockaded the river. The Ilocano tradition is that some thousands of the Chinese made their escape inland, intermarried with the Ilocanos and settled down to an agricultural life. According to Spanish accounts (See Blair and Robertson's History) Limahon escaped through the blockade. In any case the Pangasinan river is somewhat south of the Ilocano territory, so that it is unlikely that Limahon's pirates can be held seriously responsible for the Ilocanos' Chinese blood.

Closely allied to Filipino inferiority as regards planning capacity is their instability of interest. The work of cultivation and harvesting on the plantation is carried on in different ways. There is the long time contract under which the labourer or a group of labourers undertakes the full care of a section of land, being paid so much for the sugar cane they produce. These contracts may run over a term of years, supervision and assistance of various kinds being given by the plantations. The short term contract and the individual contract resemble piece work. The long term contract is hardly ever entrusted to a Filipino. He gets tired of the work and tired of waiting for his returns, even though his subsistence is, in the meantime, provided by the plantation. These long term contracts are usually taken by Japanese. The Filipino likes the variety of occupation that the individual contract affords. In this form of contract he does not need to assume responsibility for any length of time, he can measure his own effort, realize his gains and the rewards seem to him so much more immediate and tangible.

Group imitation is very characteristic of these people. Filipino labourers tend to be clean and tidy in a clean camp, shiftless and untidy if in a dirty one. Their tendency towards group imitation is no doubt due to their extreme suggestibility. Dividing them into small groups or gangs and pitting one against the other is a very effective plan to induce them to put out their best efforts. Spain undoubtedly realized the great suggestibility of the Filipinos and by means of this weakness played off one group or tribe against the other and thus managed to retain her hold on the islands for three centuries, even at a time when her fortunes at home were steadily ebbing. At no time was there a general revolt against Spanish rule. Internecine jealousy was the best weapon of defense in Spain's armory, and this she was able to keep

keen by continually playing on an outstanding weakness of Filipino character—suggestibility.

Industrially this defect has serious consequences. A group of Filipinos are at the mercy of any propagandist with a glib tongue but their chances of effective coordinated action are minimized because nothing holds them steady in their purpose for very long. Their moods too, are susceptible to many and sudden changes. They rarely bear malice for any length of time. But since the Filipino does not himself harbor a grudge he cannot understand why he should be held accountable for any offense or attempted injury once he has expressed regret. In his way of looking at things, "please excuse" is ample apology for any action and should wipe the slate of remembrance quite clean.

There is some evidence that the Japanese in Hawaii are not above using the Filipinos as catspaws to foment troubles which they themselves would like to keep out of. During 1924 the Filipinos carried on a particularly ill-conceived and hopeless strike for higher wages. It was hopeless because the Filipinos did not readily cooperate together and because the door between Hawaii and the Philippines was entirely open for the coming in of new labour supplies. This strike was brought about mainly by oratorical agitators and there is more than a suspicion that the Japanese secretly fomented and supported it. At any rate a marked change of attitude has been observable of late years on the part of some of the Japanese towards the Filipinos. Where at one time they would resent the housing of a Filipino at one of their camps they now show a fraternizing spirit.

The extreme suggestibility of the Filipino is hardly realized to its full extent because it is somewhat obscured by other traits. Foremost among these is his almost pathological distrust and suspicion. He has been reared

in an atmosphere of petty graft and corruption and has little faith in fair dealing. This distrust is evinced equally to men of his own race. One of the first of the new labourer's purchases is usually an additional lock for his door to supplement the one provided by the plantation. Yet this is often merely a childish gesture as in many cases the possessions to be kept so carefully under lock and key are nothing more valuable than some old magazines or papers or a tool which he has acquired, honestly or otherwise, and for which he has no immediate use. In many cases Filipino distrust of his fellow countrymen is shown by the fact that on some plantations he prefers to work under a Japanese than under one of his own race. He displays on every hand an aversion to facing the new or unfamiliar situation. It must be admitted that thoroughly fair and honest dealing with the Filipino soon relieves his distrust.

Perhaps one of the most outstanding traits of Filipino makeup is his extreme super-sensitiveness especially towards the suggestion that he is in any way racially inferior. To understand this, one must take into account their recent history. Their subjection under Spanish rule and their sudden emancipation into a state of comparative independence has undoubtedly resulted in an expansion of their racial ego. Their contact with American methods and ideals of efficiency has rudely disturbed their habitual lethargy. Having become accustomed to Spanish ways they are bewildered and aggravated by American energy. As with the Chinese, the natural defense to which they resort is in the direction of exalting and fortifying their self-esteem. Resenting the suspicion of their inferiority they find a malicious pleasure in anything which may mean the discomfiture of the dominant race. It has been characteristic of them to follow blindly the advice of several of their leaders in Hawaii whom they know to be

utterly untrustworthy but whom they admire simply because they have shown themselves clever enough to get the best of the "haoles" as the whites are called.

Anything which is a sop to their racial pride is correspondingly over-valued. An amusing instance of this was the experience of a white soldier who had spent all his pay and earned some money by cleaning shoes at a Filipino shoe-shining stand on a Saturday afternoon. The novelty of having a white man shine their shoes—at double rates—was too much for the Filipinos of the neighborhood who formed a line half a block long to wait for the privilege.

A rather simple obtrusiveness is also apparent in the Filipinos. They like to attract attention. The overseer who can call the members of his gang by name finds that both his praise or censure are much more effective if he can show this mark of personal recognition. The manager who goes a little out of his way to notice the Filipino or his family is courting a very easily-won popularity.

It has been already mentioned that the Filipino, like the Mediterranean race, belongs in temperament to the extrovert type, the temperament, that is, which is but little addicted to reflection or to the inhibition of impulse, but in which thought and feeling very readily flows over into expression and overt action of all kinds. In this respect the Filipinos are at the very opposite extreme from the taciturn, canny, long considering Scotchman. They are rather highly emotional, impulsive and almost explosive in temperament. With this type, attempts to muzzle expression are rather dangerous so that it is always better to give the Filipino plenty of opportunities to talk himself out.

Another trait whose presence marks the socially immature mind is irresponsibility or lack of dependability. This defect is connected with instability of interest. For

FILIPINO GROUP

PORTO RICAN GROUP

the satisfactory adjustment of such individuals constant change and variety of occupation seem desirable. Consequently, adjustments which are satisfactory today may be inadequate tomorrow. The Filipino, even if he has attained to a position of trust and responsibility, frequently requires "following up." He seems to have a consistent objection to "staying put."

Very characteristic of the primitive temperament is ostentation and love of display. Like the American negro the Filipino's first ambition is to have new clothes. Many of them find it very profitable to peddle clothes among their countrymen. Games of chance and gambling serve a twofold purpose. They give the emotional temperament the excitement it craves and at the same time they offer a means, other than hard work, for self-support. Hence the large number of convictions for gambling among Filipinos.

The explosive extrovert temperament is also reflected by the crime statistics. Suicide, except in cases of mental derangement, is very uncommon among extroverts but crimes of violence usually due to jealousy are relatively frequent. By analysing the statistics of court convictions for the last ten years it was found that more than half the murders, 43 per cent of the sex offenses, 36 per cent of the gambling and 28 per cent of the burglaries were committed by Filipinos. Figure I shows the Filipino "crime wave" in graphic form. The unshaded portion at the bottom of the figure represents their proportion of the total population averaged for these ten years. The shaded area therefore represents Filipino crime excess.

As regards courage and hardihood the Filipino is not badly endowed but his is the small man's courage which is not of the single-minded variety but requires multiplication by the presence of the gang or mob. In other words Filipinos are brave enough when there are enough of

them. Under the stress of violent anger or a sense of grave injustice he shows no tendency to reflect, so that the act of revenge often is altogether out of proportion to the offense and sometimes in cases of "running amuck" the punishment falls on the innocent as well as the guilty.

In considering the quality of the Filipino's courage it should be remembered that there are two kinds of per-

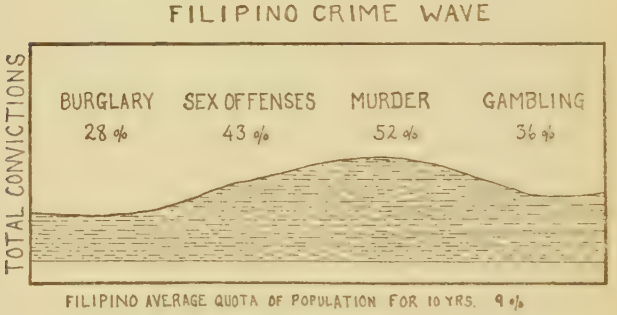


FIGURE 1

Filipino Percentages of Total Convictions Supreme Court of Hawaii 1910-1924.

sonal bravery—there is the kind which is displayed in facing a situation that is familiar, one in which all the hazards are apparent, and there is also the mental hardihood that by the exercise of cool common sense reduces the terrors that imagination lends to the unknown.

Primitive man faces many dangers from which the civilized man would shrink. It would appal the most resolute of white men to attempt to support existence in such conditions as the Australian aboriginal daily faces in the central Australian desert. Yet such people can be reduced to abject fear by the threat of the mysterious or unknown. The Filipino has by no means got rid of this "jungle fear" as it has been aptly called. In the

recent industrial troubles, many Filipinos were intimidated into joining the strikers by vague threats, and the more vague, the more effective they seemed to be. In such a mental atmosphere terrorist organizations naturally flourish. The Katipunan—a Filipino secret society—played a considerable part in Philippine history and no doubt such societies are represented in Hawaii.

The Filipinos in common with other extrovert peoples are rather over-emotional but the currents of feeling do not run very deep. Their outbursts are indicative of weak inhibition rather than of strong emotions. On the whole they are amiable and forgiving if their effervescence is allowed time to cool. The recent strike has been remarkably free from sabotage even though feeling ran high and opportunities for working damage were not wanting.

Summing up these characteristics we may say that the Filipinos represent a fine example of a race in an adolescent stage of development. They exhibit all the signs of imbalance and temporary mal-adjustment that many adolescents show. The marks of their departure from the normal balance of maturity are to be seen in their egocentric attitude, in their rather obtrusive habits and desire for personal recognition, in their super-sensitiveness, poor emotional control and unstable moods, in their alternate obstinacy and suggestibility, in their impulsiveness, love of display, and noisy self-expression. All of these tendencies are naturally aggravated by the strains and stresses incidental to their attempted adjustment to a new environment. Obviously these defects must interfere seriously with good judgment and a balanced and sane reaction to affairs in general.

With such individuals it is rare indeed to find many with any insight into their own condition. One Filipino youth who for a time attended the University of Hawaii was the exception that proved the rule. In accounting for

his failure to complete his courses he said that his trouble was that he had "too much engine for his steering gear." An exceedingly apt description of his own people was that they had "powder enough but a crooked barrel." Their impulsive antevert attitude was well characterized by his remark, "The fields on the other side of the river look always greenest and so we damn fools spend most of our time in the river."

What future lies ahead of the Filipino people? If mixture of blood is any benefit to a race then the Filipino should stand high. Chinese, Japanese, Negrito and Caucasian (both anciently and recently) have contributed blood to this race. Possibly in the conflict of racial temperaments lies the secret of Filipino ineffectuality. We have already indicated our belief that the Filipinos in Hawaii are passing through a period of mal-adjustment and that a stabilizing process may confidently be looked for. At present their characteristics have a decided bearing on their fitness for independence. If the traits that we have found to be characteristic of the Filipinos in Hawaii are also typical of the Filipino at home then we are forced to the conclusion that they are a long way from the stage of development at which they could be safely entrusted with self-government. A single glance at their list of racial defects should be sufficient to demonstrate the wisdom of this conclusion. Their distrust of each other, their instability of purpose, their lack of foresight and organizing ability are flaws of character which, if sufficiently wide-spread, would be fatal to national security and advancement.

The question may well be asked as to what means can be taken to hasten development so that such a racial group may pass from the adolescent to a more mature stage. The answer that many would give would be that it is a problem of education. Others, however, doubt the efficiency of the schools as stabilizing influences and point to

the tendency which education has to take men away from the land and to cause them to seek "white collar" jobs in the cities.

It is undoubtedly true that education does lead men away from unskilled or semi-skilled pursuits mainly because it gives the student an entirely new set of values and ambitions. It tends to cause him to put the mental above the physical, it emphasizes the victories of science over space and matter, it tends to exalt the pains of learning over merely muscular effort and all its standards of achievement are those of knowing rather than of doing. The student is ceaselessly reminded that thought accomplishes more than any other form of hard labour. If for no other reason, athletics are valuable in school life because they set up a system of values other than scholastic and so put a needful emphasis on physical qualities essential for the preservation of the individual and the race. Apart from this single exception the pupil is taught that applause and acclaim are not to be gained through muscles that ache and backs that grow stiff in the long furrows of manual labour but in the more purely intellectual fields of endeavour. Some of these values are partly false or exaggerated, but in the main we must recognize that they are the values which education fosters, so that the inevitable effect of schooling is to draw the more intellectual away from the land to other pursuits. This is only right and natural but unfortunately the school tends also to create ambitions in individuals who by virtue of poor intellectual equipment, are incapable of attaining these ambitions. The school offers the same educational fare to those who can digest it well and to those whose assimilative abilities are very defective. For these latter, whose world is not the world of ideas and whose subsistence must be earned by the sweat of their brows, the stimulus of unattainable ambition is cruelty. It is like clothing the

inmates of an orphan asylum with silk stockings and fine raiment and then turning them loose into the world and expecting them to be happy in homespun.

This is likely to be the case with the Filipinos. There is a danger not of under-educating them but of giving their education the wrong direction. The educational cloth must be cut to fit the mental pattern and there would be grave danger in giving too literary a turn to their schooling. If their immaturity of development is recognized and if it be made plain that their great defects are the faults of the adolescent temperament then it would be wise to examine our school system and revalue our educational processes in terms of their corrective effect on these flaws of adolescent character. Then with a curriculum whose content should be practical and fitted to Filipino intellectual status something might be done to lessen the period of their social mal-adjustment. If it is the boast of educators in the Philippines that they are bestowing an essentially American system of education on these people, then it is a vain boast, for it is a well known fact that receiving, like giving, is according to capacity. It is our opinion that no matter what labels of citizenship we may put on these people they remain Filipinos, and it will take much more than a knowledge of the three "R's" to make them Americans. To make the system of schooling too over-scholastic might be worse than no benefit at all. The surest way to make a malcontent is to educate him either above his intelligence or his opportunities.

PART III

SOCIAL ANALYSIS OF RACES

Chapter VII

SOCIAL RATING SCALE

Our brief historical survey of five of the main racial groups now resident in Hawaii is sufficient to bring out very clearly that differences in social adaptability undoubtedly exist in those races. But this conclusion, with the exception of the small section dealing with the Filipinos, is based on the more or less casual observations to be found in immigration and labour reports in which there is little or no attempt made to analyse racial character and to compare directly the traits of one race with those of another. We may agree fairly well that certain traits are characteristic of the Japanese, others of the Filipino, but as yet we have attempted no answer to the question as to the relative possession of these traits by other races nor indeed what the relative importance of such traits is to social adaptability in general. Such a systematic analysis and comparison of important social qualities is made possible, for the individual, by the use of the Porteus Social Rating Scale. Before proceeding to the account of the application of this scale for the purpose of racial analysis, it would be well to describe the scale and to discuss briefly its bearing on racial as well as individual efficiency.

To anyone who has observed closely enough the daily life of a group of mental defectives, it will be quite clear that their every day reactions are even more indicative of their social inefficiency than their mental test reactions. In other words a psychological examination is not necessary for a diagnosis of feeble-mindedness, provided the

individual has been under expert observation for a sufficient length of time. As a matter of fact it is not necessary even to test their learning capacity in school. The incapacity is shown unmistakably in many other ways. The feeble-minded individual cannot be entrusted with a task that is unfamiliar to him because he is unable to plan new work. He shows a thoroughly childish habit of trying to attract attention and notice in simple ways. He laughs or cries without sufficient cause. He is unable to make his conduct fitting to a given occasion and is lacking apparently in standards by which he can realize his own short-comings. He is cunning, inclined to be deceitful and is decidedly simple and suggestible. All of these defects can be perhaps included in the statement that they lack good judgment or common sense. The Porteus Social Rating Scale represents an attempt to rate individuals according to their possession of certain of these anti-social or sub-social traits and thus obtain an approach to the problem of diagnosis which would be outside the field of mental tests.

In order to discover which are the most common traits of feeble-minded personality a survey of a large group of defectives was undertaken. A list of fifty anti-social traits along with the names of one hundred and twenty-five feeble-minded individuals was submitted to two observers who had known the cases for periods of five years and upwards. These observers indicated what traits were characteristic of each of the individuals in question. In this way the comparative frequency of appearance of each trait could be found. Those most frequently present were lack of planning ability, suggestibility, irresolution, over-emotionality, moodiness, impulsiveness, obtrusiveness, quarrelsomeness, slyness and disobedience.

Each of the cases was then given a rating according to his degree of possession of these selected traits. The

individuals were also arranged according to their estimated chance of success in the world outside the institution and the two ratings correlated. In this way it was found that the last three traits of the list, though frequently observed in the defective personality, were not of great importance. The sly, disobedient and quarrelsome children were given the best chances of social success despite these faults. Evidently these traits indicated an activity of temperament unusual in their weaker willed and more inefficient companions. These three traits were therefore dropped from the list. By further statistical analysis the comparative importance of the traits was then approximately determined. It was found that lack of planning ability was six times as important as moodiness while suggestibility was three times as important. In this way what is called the weighting of each trait was allotted. The manner of using the scale is to take a group of individuals, have some person who knows them intimately rate them, say on a one to five point basis according to the degree of their possession of the defects of the scale, multiply the ratings by the allotted weights and the result is a measure of the individual's social inefficiency. For the proofs of the validity and usefulness of the scale we must refer the reader to other publications.[1] All that we can say here is that when observers of the necessary experience are available the scale gives a very reliable index of the social sufficiency of the individual. It has been tried out in various places and the close relation of its scores to actual success of individuals on parole in the community has been proved.

One of the most interesting features of this study was the realization after its completion that it applied not only to defectives but to normal people as well. No mat-

1 Porteus—Study of Personality of Defectives with a Social Rating Scale. Also—Studies in Mental Deviations, Chapter V.

ter how well endowed a person may be with natural intellectual gifts these defects in his character will be marked hindrances to his social efficiency, like millstones round the neck of a strong swimmer. Nothing is so tragic as the ineffectuality of potential genius when it is hampered with these flaws of personality. We suspect that the reason why so many children with abnormally high intelligence quotients fail to fulfil the promise of their youth, lies in the fact of their deficiency in some of the traits of the social ratings scale. It will be observed that they are not all truly temperamental traits. Some have to do with the emotional life of the individual, some with volitional weaknesses and the remainder with temperamental tendencies. These defects might be included together under the term "psychoasthenic traits." The converse of these defects we are describing under a new name as the "psychosynergic" traits, that is to say, the cooperating mental energies that provide "drive" or strength and direction of motivation in conduct. "Psychodynamic" would have been a shorter word but this does not give the idea of coordinated, purposeful activity that "synergy" conveys. Psychodynamic forces may be single and out of all relation to normal mental life as witness the tremendous mental energy of the insane. A brief consideration of these psychosynergic traits as they appear in the social ratings scale will show their importance as elements in individual or racial character.

Planning capacity is undoubtedly valuable in every form of human activity. The general must plan his campaign, the statesman his policy, the scientist his research, the man of affairs his business. It is most unlikely that blind effort even though it be unremitting can take the place of pre-vision. It is so rarely that human events run along a settled course that to be successful we must be far-seeing. To be fertile in expedients, to anticipate the short cuts is

to substitute vision for chance in dealing with any emergency. Effective foresight presupposes both insight and hindsight—the ability to realize the present situation and the power to profit by past experience.

In all human relations the capacity for foresight is preeminently useful. It is the man who can foresee the set of the currents of ideas in other men's minds who can assume leadership and enlist cooperation easily and naturally. The psychological equipment of greatest practical value is this ability to anticipate the effect of our thoughts or actions upon the minds of others. If there is one thing more than another that characterizes genius it is this power of pre-vision. All productive thinking is thinking in advance, forethought, a lighting up of far-distant peaks ahead of the dawn. It is this ability which constitutes the difference between the workman and the master builder. The one may work faithfully enough at his bench but there is no vision behind the hand that holds the chisel. The other labours understandingly because he sees his work as the keystone of the finished archway.

Similarly with regard to national affairs there can be no doubt that in these days of social complexity the nation that is taking thought in every direction for its morrow, and is watching carefully the trends and tendencies of the time, is taking the best possible insurance against ultimate distress and disaster. It is no exaggeration to say that the forethought of the leaders of one generation is the salvation of the next. This pre-vision also distinguishes the statesman from the politician. The latter has merely an adroitness in meeting unlooked for situations, the former has that keenness of analytical insight and foresight which enables him to build surely and firmly for the future.

Planning capacity itself may be considered an intellectual trait but it is the tendency to use foresight and pre-

consideration which seems characteristic of certain temperaments. Jung has described individuals as being either "extrovert" or "introvert" according as their usual mental attitude is of the subjective or objective type. Professor McDougall[2] adopts these terms to characterize the typical reaction of the various races of Europe—the impulsive, expressive, active race in whom action so quickly follows thought is the extrovert; the reflective, reserved and deliberative is the introvert. These terms, borrowed from psychiatry, are particularly apt as regards individuals. The extrovert's outlook and interest are concerned with objects external to himself, the introvert is much more concerned with his inward life. The one tends to be explosive, volatile in expression, the other self-examinatory, consuming his own smoke. McDougall considers the Nordic race to be predominantly introvert. He finds them also to be inquiring and unsociable, aggressive and self-assertive. The Mediterranean race he describes as sociable, uninquiring, impulsive, extrovert and submissive. To these terms we would add two other characterizations of racial and individual temperaments that seem to us to be equally useful and important. They are "antevert" and "retrovert"—forward looking and backward looking—the former progressive, optimistic, widely ambitious, restless, gambling with fortune, the latter conservative, devoted to old creeds and traditions, absorbed in the pride of past accomplishments, living on the accumulated gains of past generations.

This classification too is based on temperamental differences and cuts somewhat across McDougall's division, but it seems to us to be equally important when we come to consider and account for differences in racial achievement. The success of the Anglo-Saxons as colonists or pioneers may be due not only to their aggressiveness and

[2] McDougall—Is America Safe for Democracy

their lessened gregarious instinct, as McDougall suggests, but also to their restlessness, their incurable faith in a new future, together with an impatience with the limitations of ambition that life in a settled community imposes. To the antevert the fields ahead are always greenest. The gold seeker or the lonely settler as we have known him in the far corners of Australia is neither reflective nor unsociable, nor would aggressive describe him half so aptly as it would the city dweller. He is not a pioneer primarily because he prefers segregation to congregation but because, always looking forward, he weighs the chances of gain or independence and decides that they are greater in the wilds than in the closer competition of the cities. So he faces toil and the sacrifices of loneliness because that way fortune seems to lie. Ultimately, it is true, habit lays hold of him and wide spaces become necessary to his happiness. Frequently, however, he is hungry for human companionship. It is the discontent of ambition that drives him first afield and the breaking down of the gregarious instinct follows later. The advantage is not altogether with the restless antevert. Because he fails to become rooted to the soil he loses much of the sustenance that stability would afford. He sows that others may reap and always pursuing the shadow, fails to see the gold at his feet.

The distinction between antevert and retrovert may be very useful in describing the Chinese and Japanese peoples. The former are more stable, conservative, less adaptable, tradition loving, ancestor worshipping, unprogressive and racially unambitious—predominantly retrovert. The Japanese on the other hand are calculating and unscrupulous, adaptable, ambitious, progressive, pursuing well defined national policies—predominantly antevert. Both appear to be, if anything, introvert, though the Chinese, we have reason to believe, are more emotional,

more impulsive, than the Japanese. Both are provident, but the Chinese, as we have seen, tend to invest their savings in small independent enterprises where trading methods as old as civilization itself come into play. The Japanese are more forward-looking, inclined to engage in occupations where opportunity offers to acquire new forms of skill. Hence if we add to the racial characteristics of the Chinese the quality of retroversion, and anteversion to those of the Japanese the picture seems more complete. These racial qualities appear, therefore, to amply justify, as regards the Japanese, a higher rating for tendency to use planning capacity than for any of the other races in Hawaii.

We believe that this distinction between antevert and retrovert is useful not only in characterizing the temperaments of races but also of the sexes. Women's attitude is predominantly retrovert. They are much more firmly rooted in conservatism than men and are much more fearful or distrustful of the unaccustomed whether it be in business or any sphere of activity. Woman is naturally less restless, ambitious and forward looking; her tendency is to hold what she has, man's to look forward to further gains. These sex differences are more fully discussed in the section on male and female brain capacity in Chapter XI.

The second defect listed in the social ratings scale is suggestibility and there can be little doubt that this too is a most serious handicap. This is an almost ineradicable fault. We have a natural bias towards belief and are so willing to be caught with a phrase or governed by a slogan. To what extent the progress of the world has been hindered by blind faith we cannot estimate, but almost every great advance in scientific knowledge has been in the face of the bitterest opposition from some firmly entrenched superstition. Individually we each have our

blind sides. It does not need good grain but merely chaff to catch the unwary, and suggestibility is the red clout to drive the foolish turkeys to market. This defect is so common that it lends colour to the cynic's belief that half the world is being gulled or duped by the other half. To this wide-spread suggestibility of mankind we must add a melancholy load of auto-suggestibility—when we are not fooled by others we succeed in fooling ourselves. Witness the efficacy of "Couéism" and other cults of like nature. There seems little reason to consider suggestibility in any sense peculiar to the mentally defective.

Racially we may consider suggestibility to be at the root of submissiveness. The people that follows too closely the voice of authority, whether it be that of kings or priests or books, and is a prey to the plausibility of press or pulpit loses that initiative which is essential to continued progress. Such a people may do great things if the leaders are right, but unfortunately there is no providence that ensures the eternal truth of the leaders. Even in our own day we have seen the prostitution of a great people's energy to an unrighteous purpose. Unfortunately suggestibility cuts across all grades and strata of society. It is not confined to the untutored. A readiness to allow others to do our thinking for us is the bane of higher education. We are entirely too submissive to great names, so that the suggestible as they grow better educated are prone merely to exchange one set of masters for another.

Of the races with which we are concerned there is but little doubt that the Japanese are the least suggestible. Both Chinese and Portuguese are submissive and both are to a great extent superstitious. The Chinese, however, are dominated more by tradition than by priests. They are probably more auto-suggestive, the Portuguese more hetero-suggestive.

A third defect that bites deeply into character is impulsiveness. Our feet or our hands or our tongues seem too ready to bring us into situations wherefrom it takes every ingenuity and resource that we are possessed of to carry us out again. So many times do we do things that are "against our better judgment" that it is little wonder that men readily adopted the idea of an extraneous tempter co-equal with the spirit of goodness, a prince of darkness eternally waiting to trip the unwary and beguile the innocent. Deliberation, second choice, reflection have always been reckoned as the main weapons that we can turn against the devil of impulsiveness—hence it is true that there is but a few seconds' difference between the wise man and the fool.

It is difficult to believe that a defect of such importance to the individual will not have grave effects on national character. A nation that is generally suggestible and in addition has the tendency to carry belief too quickly over into action will have its progress distracted by mob violence and revolutions. Such is the case with some of the unhappy republics of South America where national stability is so frequently imperilled by a new revolution.

All that we have been able to observe with regard to Japanese character goes to show that they are extremely deliberate and prudent in carrying out their plans, and this too in directions other than those in which tradition has enjoined care. In other words it is not only in individual saving and thrift—habits which because of economic stress at home have become deeply engrained in character—but in other directions also that they show a prudent self command. Stability of government is to be looked for in a people to whom second thought becomes habitual. The Chinese, though they too give the impression of prudence, are somewhat more impulsive and the Portuguese even more so. In all three races providence and thrift are the rule.

Irresolution, whether it arises from a constitutional timidity or otherwise, is at the other extreme of impulsiveness. Instead of impulse taking shape too quickly in action, irresolution stultifies decision. It is not so commonly to be observed but it is more deeply engraved in character than impulsiveness. If the lesson of punishment follows swiftly on the heels of the impulsive action then we may learn to be less precipitate. In this way the burnt child soon learns to dread the fire. Unfortunately the punishment for our acts is so long deferred in most cases that the lesson having lost immediacy loses also much of its force. But the irresolute and the suggestible, no matter what the consequences of their defects may be, usually remain so to the end of the chapter. Timidity, pusillanimity, vacillation are universally condemned and despised but this very disapprobation often accentuates the fault. The sense of ineffectiveness is cried home to us by a thousand voices and every failure serves to deepen and confirm a felt inferiority. This defect of character cannot be said to be in any degree typical of the Japanese. Their resolution and determination have been exemplified in many ways. The Chinese on the other hand do not show the same hardihood and tenacity of purpose in the face of difficulties that are exhibited by their fellow Orientals. When facing a new situation the Portuguese possess a rather marked tendency to irresolution, which might almost be described as timidity.

Closely allied to irresolution and impulsiveness is over-emotionality or excitability. Many people can meet all the ordinary situations of life with ease and decision, provided they are thoroughly familiar with such situations. But let the conditions be varied in some way and mental confusion results. Over-emotionality is the stuff out of which religious revivals and financial panics and reigns of terror are made. The nation that can keep its head

in days of stress is rarely conquered, for set-backs only serve to whet determination. There is nothing in the mob or crowd psychology which is not to be found in the individual except that in the crowd the emotional fervor is strangely re-enforced and blazes like a great fire that makes its own draught. National emergencies come seldom, it is true, but when they do come, national steadiness will surely be in proportion to individual self-control. There can be no doubt of the self-restraint of the Japanese people as their fortitude and coolness in the recent great earthquake and fire show. That either the Portuguese or Chinese would have faced such an emergency with coolness is problematical.

Obtrusiveness or a too self-assertive nature may be a serious drawback. A person who obtrudes his self-respect or pursues even a legitimate advantage too openly will conjure up opposition to his enterprises from quarters where indifference or even support could be naturally expected. Arrogance in the race is also unfortunate in its effects and may lead to isolation and the defeat of ambition. As an example we may cite the long enmity between Irish and English which is founded not so much on political oppression as on a deep-rooted antipathy between the two temperamental types predominant in each people. Dogged self-assertion on the one hand is met with shafts of humor on the other, which, failing to find the joints in the armour of self-sufficiency, soon become bitter and malicious. If there is one thing that the English cannot understand it is ridicule, and the Irish resent above all things the imputation that they are not quite grown up and need governing. The lion rampant is not a particularly fortunate symbol for a nation's coat of arms and the "uber alles" type of imperialism is apt to defeat itself by the very proclamation of its aims. Aggressiveness without the salt of good judgment is a positive detriment to racial or individual progress.

One of the faults of the Japanese disposition is that they possess this aggressive attitude to a somewhat marked extent. It is not shown individually but in the group it is apparent in a desire to pursue every advantage, to choose the keenest weapons of competition, to drive the best bargain possible. They have not yet learned the graceful gestures of conciliation. Add to this the fact that they are not particularly scrupulous in their dealings and the explanation of their unpopularity is not far to seek. The Chinese are more conciliatory although their ultra-conservatism is likely to arouse impatience. The Portuguese although they are apt to be individually obtrusive, as a group are not aggressive, consequently arouse but little opposition.

The seventh characteristic that marks the defective personality is the tendency to frequent changes in mood or interest. This defect unless it is present to such a degree as to indicate a psychopathic basis is hardly of as much importance as the other six traits. Yet the pursuit of a serious purpose in life is hardly possible to persons in whom the transition from one mood to its opposite is so easy that they require constant humouring. To such people the interest of a new task or situation gives a new-broom efficiency but their enthusiasm soon flags and their energies tire. They increasingly need frequent changes of interest until they ultimately become incapable of steady, continued effort.

In the mass a community that is taken up with the craze of the moment, that passes from the crest of one wave of hysteria to the next, dissipates an immense amount of energy without permanent progress. When the will and interest of the multitude is fickle the nation's tasks are ill-done. No amount of boosting or clamour can take the place of quiet accomplishment.

This fault too cuts its way through all social strata.

The passion for fads, the craving for new amusements is not, however, so much a characteristic of the peoples under review as it is of our own race.

This completes the list of the anti-social traits of the social rating scale, but there is one other whose importance is somewhat diminished in the defective because of the conditions of his well-ordered, simplified existence, but which comes into play as an important factor in individual or national life. We may call this dependability. Though it belongs amongst the moral rather than the temperamental qualities it is needed as a counter-balance to the weighting which planning capacity receives. The distrust and suspicion which the Japanese have aroused have already been alluded to. Individually the Japanese have a goods-and-chattels honesty but the principle seems of unequal application. As a group they are by no means dependable when it comes to keeping faith in their contracts. Astuteness rather than candor seems to be more highly prized among them.

In order to understand more clearly the bearing of the traits of the social ratings scale upon racial history it is only necessary to compare the characters of noted leaders who may be said to have typified the spirit of the people to which they belonged. The ex-Kaiser, for example, pursued rather a short-sighted policy with regard to the participation of the United States in the war. His foresight was excellent as far as it went but it did not go far enough. In all probability he was not suggestible although it is impossible to judge how many of his policies were dictated by himself and to what extent he was swayed by others. Instances of his impulsive habit are by no means wanting and his aggressive and obtrusive spirit was so frequently shown in speeches in which he figuratively rattled the sword or paraded his shining armour. If accounts of his personal conduct are to be re-

lied on, we may assume his excitability, while his final flight from Germany did not indicate much store of resolution. Allowing for the possibly distorted perspective that proximity to events bestows it is unlikely that history will rate the ex-Kaiser very high as regards the above mentioned qualities. Contrast the foresight, the resolution, the calm and dignified humility of Lincoln, and these traits at once oppear in their full significance.

There are of course certain drawbacks to the application of rating scales in general. Thorndike has pointed out one of the most serious sources of error which was brought to light mainly by wartime experiences with scales for rating military efficiency. He finds that there is a tendency for an observer to surround the persons he knows with a certain "halo" through which he views them and which tends to colour all his judgments. He states the conclusion that "even a very capable foreman, employer, teacher or department head is unable to treat an individual as a compound of separate qualities and to assign a magnitude to each of these in independence of the others."

There are several reasons why the social ratings scale when used for racial comparisons may be expected to avoid these errors to a certain extent. Racial prejudices do of course exist, but they affect mainly the comparisons of other races with our own. The error should not be as serious if the observer is not asked to rate his own race. In the next place the validity of ratings of character depend very largely on the familiarity of the observer with the people rated so that there is probably an inverse relation between validity and the number rated. An officer's or a teacher's ratings of thirty or forty individuals are not as likely to be as sound as those given by an observer on five or six racial groups. Finally with regard to comparisons of races we have the advantage of being able to

increase the number of observers and thus in the consensus of opinion individual prejudices are apt to be lost. It is unlikely that one could find twenty-five observers with an intimate knowledge of a given group of individuals, yet this is possible when we come to compare races.

It should be remembered that the Social Ratings Scale in its original form included a list of defects and thus gave a measure of inefficiency. In order to get a positive index of social adaptability it was necessary to arrange a list of traits that are the opposite of these defects. The two sets of opposite traits are given below, the ratings being given in the set in the right hand column. These seemed more applicable also for the purposes of group comparison.

TABLE I

Traits of the Social Rating Scale

1. Lack of Planning Ability	1. Planning Capacity
2. Suggestibility	2. Self-determination, resistance to suggestion
3. Impulsiveness	3. Prudence
4. Irresolution	4. Resolution
5. Over-emotionality	5. Self-control
6. Instability of Interest	6. Stability of Interest
7. Obtrusiveness	7. Conciliatory Attitude, Tact

Ratings given to these traits do not of course represent absolute values but are merely approximate comparative measures. If other races were included in the list the ratings would probably change. The application of the adapted scale is described in the next chapter.

Chapter VIII

RACIAL EFFICIENCY INDEX

In the previous section we have endeavoured to obtain some estimate of the social adaptability of the three immigrant groups, Japanese, Chinese and Portuguese, using as a basis of judgment opinions expressed in reports of the Bureau of Immigration and the like.[1] These opinions were given by people who were very much concerned with the value of the immigrants as labourers, but as the drift away from the plantations soon became marked we find in those reports many comparisons of the races with regard to their value as permanent residents or prospective citizens of the Territory. As an example we have already noted the unfavourable comments made on the social characteristics of the Chinese, their clannishness, disrespect for human life, imperviousness to Western ideas and consequent apparent inassimilability.

The method of basing conclusions on such reports and opinions is of course a rather unsatisfactory one, but this seemed a case where even a rough and ready estimate seemed better than none. Such an estimate would give us a measure with which present day experience could be compared. The problem of obtaining ratings which would reflect more accurately the present status of the races and would give a point for comparison twenty years from now, is a more practicable one.

[1] NOTE:—In order to ensure independence of judgment, the racial comparisons given in the previous chapter were made by the authors and the chapter written prior to obtaining the social ratings given in this section.

To accomplish this, ratings were obtained from twenty-five people of long experience in the islands, observers whose work brought them very intimately into contact with the various racial groups. Sixteen of the judges were plantation managers while among the remainder of the group were head workers of social settlements, plantation doctors, and several educationists. The inclusion of so many plantation managers would appear to make the ratings more indicative of industrial efficiency than of social efficiency in general, but as a matter of fact, the relation of plantation managers to the labourers is much more intimate than that of the ordinary employer to his employees and is of such a nature as to make him fully aware of the general social attributes of the people with whom he deals. The supervision of the labourer's life on the plantation extends to the allotment of dwelling houses in the camps, the provision of recreation, the settling of grievances and complaints, the giving of advice on a multitude of subjects and the general oversight of conduct. We must also take into consideration the fact that much of the work on the plantations is done by supervised contracts and not by day labour, giving the manager excellent opportunities for the observation of such traits as planning capacity, initiative, perseverance, dependability, loyalty and cooperation. New labourers are put in groups under lunas or overseers, the more experienced taking contracts singly or in groups, so that different kinds of discipline, self-imposed and otherwise, are in operation. A large percentage of the plantation manager's time is taken up with the adjustment of many matters outside the work and wages question and into which various factors of race psychology enter. In short the labourer's life in plantation camps as well as his work in the plantation fields tend to bring into relief many of the most important traits of racial habit and temperament. The variety of

experience that falls to the lot of the average manager may be gauged from the distribution of nationalities on a single representative plantation. The labouring population consisted of 298 Japanese, 438 Filipinos, 80 Chinese, 14 Koreans, 7 Porto Ricans, 16 Hawaiians, 62 Portuguese, 4 Spanish, 34 other Caucasians, and miscellaneous 6. When one considers the original geographical distribution of these people, and the consequent differences in their languages, customs, experience and mental outlook it is readily recognized that each plantation is a little world in itself and that the plantation manager has unequalled opportunities for making practical studies in racial psychology. Indeed the necessity for taking account of racial differences is practically forced on him. The depth of interest in the human aspects of the labour problem varies of course with different managers, but in the majority of cases, their opinions are the outcome of long continued practical observations. It must be remembered also that the work on a sugar plantation is not wholly agricultural but is varied. There are in operation grinding mills, many miles of railways, numerous workshops and a somewhat complex system of irrigation and cultivation, bringing into play many varieties of working ability.

For the purpose of this investigation six races were considered, Japanese, Chinese, Portuguese, Hawaiian, Filipino, and Porto Ricans, and in order to get a fair sampling of experience judgments were obtained from people in as widely separated areas as possible, observers being selected from the three islands of Hawaii, Oahu and Kauai.

Apart from the ordinary difficulties and sources of error inseparable from the application of any social ratings scale there were several circumstances likely to affect the validity of the ratings. In the first place present labour conditions have affected the ratings somewhat, re-

sulting in an injustice of estimate regarding certain groups. For example, the Chinese that are left on the plantations are in most instances the "left overs," those who were either too unintelligent or too unenterprising to break away from plantation work. On the other hand, the Portuguese that have remained frequently hold the skilled and semi-skilled jobs and may perhaps be above the average of their racial group. One safeguard against error in this situation was to choose observers of the longest experience and to ask them in giving their ratings to take into account their past experience rather than to consider only the present condition of affairs in plantation work. Another circumstance likely to affect ratings is the relative size of the racial groups. Japanese obtrusiveness for example is magnified in people's minds because of their numerical preponderance. Their aggressive attitude would not be likely to make such a deep impression except for the fact that this race constitutes forty per cent of the population.

As regards the application of the scale, the questions put to the persons giving the ratings were couched in the same general form. Additional explanations were sometimes called for but on the whole the questions were phrased as follows:—

1. Group planning capacity.

'Of the six races under consideration which group shows the most planning capacity, tends to look furthest ahead and prepare for the future? You must consider not only individual thrift and providence which are individual matters, but the tendency to evolve a far-sighted policy for the group, to adapt their means to the end in view, to be "long-headed".'

(Rating—Five points)

'Which race as a group is least far-sighted and most concerned with the present rather than with planning for the future?'

(Rating—One point)

This general plan of a main question elaborated by explanatory forms was used throughout, the positive and negative sides of the trait being alternately presented. The extreme ratings having been allotted the intermediate scores are more easily determined. Stating the question conversely serves to fix the purport of the inquiry more definitely in the observer's mind. The questions for the other traits are also given in detail.

2. Resistance to suggestion—self determination.

'Which as a group are the most suggestible, that is to say the most easily swayed or led, tending to shape their actions according to the opinions of the last person who talked to them?'

(Rating—One point)

'On the other hand, who are the most self-determined, tending to reason things out for themselves and who require the soundest arguments to induce them to take a new course of action or point of view?'

(Rating—Five points)

3. Inhibition of impulse—prudence.

'Which racial group tends to be most impulsive, to rush into action without proper consideration?'

(Rating—One point)

(When necessary the difference between suggestibility and impulsiveness was explained, the former as the tendency to follow too readily the lead of others, the latter to act hurriedly on auto-suggestion or the impulse from within.)

'Which as a group tend to delay action until after consideration, to deliberate most carefully before they act?'

(Rating—Five points)

4. Resolution—determination.

'Which as a group are the most determined in the face of difficulties or danger, are least likely to give up when the task or the situation becomes difficult?'

(Rating—Five points)

'Which are the least determined in difficult circumstances, have the widest "yellow streak"?'

(Rating—One point)

5. Self control.

'Which as a group show the most self control over their emotions, tend to keep their heads best in unusual circumstances?'

(Rating—Five points)

'Which are the most excitable and least to be depended upon in an emergency?'

(Rating—One point)

6. Stability of interest.

'Which group is the most stable, has the greatest tendency to stick to the one objective, to follow its aim steadily?'

(Rating—Five points)

'Which are the most fickle in their interests, change their objective most frequently and pursue one aim and then another?'

(Rating—One point)

7. Conciliatory attitude—tact.

'Which as a group tend to arouse most opposition by their methods of attaining their ends and have least consideration for others who stand in the way of their ambitions?'

(Rating—One point)

'Which are the most conciliatory and tactful, are the least likely to arouse the opposition of other racial groups?'

(Rating—Five points)

8. Dependability.

'Which as a group are the most dependable, the most trustworthy, not merely as regards a goods-and-chattels

honesty, but as regards keeping faith, living up to their contracts and obligations?'

(Rating—Five points)

'Which are the most likely to take any unfair advantage that offers, and are the least dependable?'

(Rating—One point)

It must be admitted that in these questions there is considerable looseness of description and that the traits somewhat overlap, but this is inescapeable when it comes to applying the scale in conditions such as we have described. It would have been easy to have phrased the questions more exactly but only at the expense of intelligibility to the ordinary man's understanding. This seems to be a case where the effort to make the scale more exact would have resulted in lessening its validity.

When the ratings had been obtained the average for each race was determined for each trait. These averages therefore represent what might be considered a consensus of opinion with regard to those racial characteristics which have the closest relation to social efficiency. The results are given in the Table 2 and Figure 2. An examination of these ratings in detail should lead to some very interesting conclusions on racial psychology.

The Japanese are held to be decidedly ahead of all the other races in planning capacity, resolution or determination. They are also first as regards stability of interest and are equal to the Chinese in ability to inhibit impulsive action, and are also equal to them in self control. They are considered slightly inferior to the Chinese as regards suggestibility, but are markedly inferior to them in dependability. The worst rating given to the Japanese is under the heading "aggressiveness", the average opinion being that they, of all racial groups, tend to rouse most opposition by their methods of attaining their ends.

TABLE 2

SOCIAL RATING SCALE AVERAGES FOR RACIAL GROUPS

25 Judges

	Planning Capacity Average Score	S. D.	Resolution Average Score	S. D.	Stability Average Score	S. D.	Self Control Average Score	S. D.	Prudence Average Score	S. D.	Self-Determination Average Score	S. D.	Dependability Average Score	S. D.	Tact Average Score	S. D.
Japanese	5.00	.00	4.84	.37	4.68	.47	4.44	.70	4.24	.86	4.0	.89	3.8	1.06	1.88	1.15
Chinese,	3.80	.57	3.92	.95	4.44	.70	4.4	.75	4.28	.60	4.28	1.08	4.72	.53	3.96	.82
Portuguese	3.24	.59	2.64	.85	3.48	.64	2.44	.80	2.64	1.05	3.64	.84	3.04	.78	2.28	.93
Hawaiian	1.72	.72	2.68	1.08	2.08	.91	3.28	1.08	3.60	1.08	1.92	.80	2.8	1.02	4.28	.94
Filipino	1.36	.49	2.16	1.05	1.40	.49	1.8	.98	1.44	.64	1.28	.45	1.6	.63	2.80	.96
Porto Rican	1.28	.53	1.56	.77	1.65	.63	1.65	.76	1.6	.705	2.4	1.10	1.26	.44	2.3	1.02

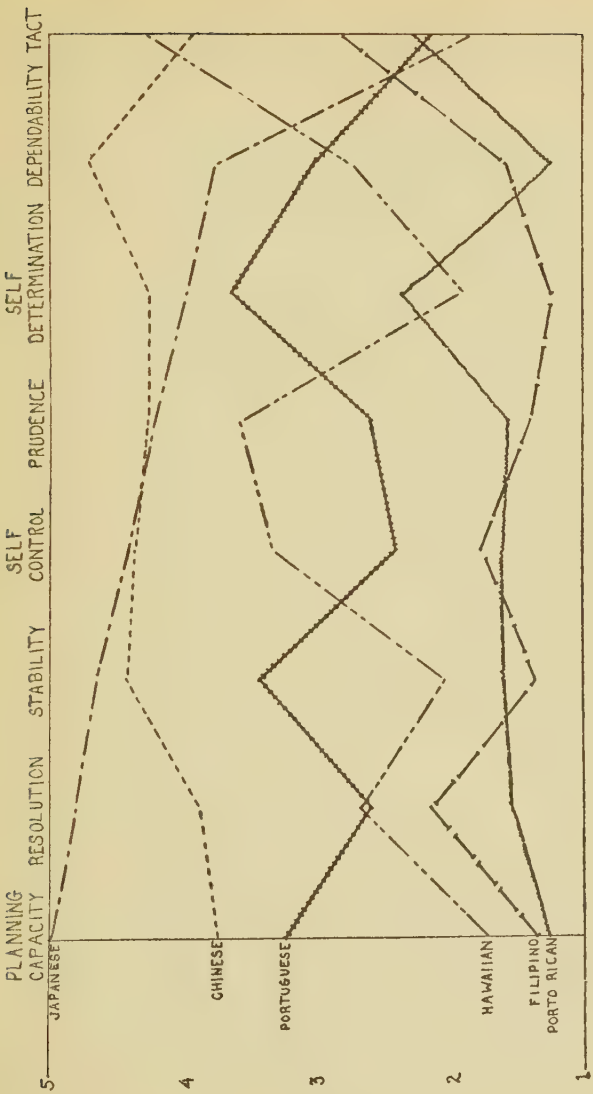


FIGURE 2
Social Efficiency Ratings of Racial Groups.

As previously mentioned this opinion is probably affected by their numerical preponderance. Japanese "aggression" is over-rated because to a certain extent it is feared.

The Chinese according to these ratings are the least suggestible and are by far the most dependable group. They are second only to the Hawaiians in tact and conciliatory attitude. In comparison with the Japanese they exercise considerably less planning capacity for the group. This serves to confirm our previous statement that the ambitions of the Chinese in Hawaii are individual and private. They are rather indifferent to the attitude of other races towards them, are little disposed towards collective action, are more concerned with conservation than progress, are retrovert rather than antevert. The Chinese face the old familiar problems of individual survival with resolution and patience but have a lesser capacity for determination in the unfamiliar or unlooked for situation.

Apparently these traits of temperament and disposition are just as characteristic of the Chinese at home as they are in Hawaii. Huntington in his recent book, "The Character of Races" quotes a Chinese merchant who deplored the fact "that none of the Chinese seemed to care for anything except what they personally can get. They do not even think far enough into the future to realize that strict honesty and devotion to the public as well as the private good would pay them personally in the long run." The Chinese are asocial rather than anti-social in their outlook. Huntington finds the explanation for their intensely individualistic point of view in the age-long environmental conditions of famine and over-population which has made it possible for only the most thrifty and provident to survive. In his view these temperamental traits tend to become fixed in the race by inheritance. "Economy and thrift," he says (p. 186) "are virtues but

they easily pass into parsimony and selfishness. Now selfishness and self-centeredness, which perhaps are the same, are among the most prominent and regrettable qualities of the Chinese. And they too, like a strong physique and the spirit of rigid economy, seem to have become inherent in the race, ingrained qualities innate in the germ plasm. They are innate because in the past those who showed the spirit of altruism and self-sacrifice have often paid the penalty with their lives."

Bertrand Russell in an article[2] plainly favourable to the Chinese, speaks of their "vast passive indifference" to many of the things that excite the minds of foreigners. He also finds them to be intensely individualistic in their outlook but "not self-assertive either individually or nationally." In Russell's view, the three worst defects of the Chinese are avarice, cowardice, and callousness. Like Huntington, he regards their avarice as being related to the hard conditions of life and their callousness also has become inbred through China's experience of famines. Their courage is not of the active kind although they do not fear death unduly. It will be seen that these opinions agree closely with the results of observations in Hawaii.

It will be interesting indeed to see what effect the change in environmental conditions will have on the persistence of these traits. In Hawaii no such conditions of stress and famine exist. There is some support for Huntington's view regarding the transmission of these traits in the fact that according to our ratings the Chinese, though removed one and two generations from these selective conditions, still have the same reputation for thrift and self-centered ambition. With the diminution of the selective influences we may expect these qualities also to diminish but it should take more than several generations

[2] Some Traits in the Chinese Character.—Atlantic Monthly, Dec. 1921.

to undo the work of centuries. In this comparison of the influence of nature with nurture Hawaii offers unique conditions. But in order that the answer shall be complete and final we must begin the systematic observation and recording of racial traits now, so that in future investigations observers will have a definite point to measure from.

Incidentally we may remark that from the community's standpoint the importation of Chinese has been a conspicuously successful experiment. There is no question in anybody's mind regarding their thrift and industriousness and their dependability. Lacking any marked tendency to collective ambition, or "race solidarity" as it is sometimes expressed, they are the less liable to form troublesome political "blocs" and are unlikely to scheme too deeply for the advancement of their group. Somewhat less suggestible than the Japanese they are therefore less adaptable, slower to assimilate Western ideas and thus less disposed to constitute a challenge to the supremacy of the ruling caste. From a point of view as selfish as his own, the Chinese is an almost ideal immigrant. He possesses all the virtues of a useful citizen without the embarrassing ambition to become one. In other words he will accept many of the responsibilities of citizenship without demanding too many of its privileges. In short you may give him an inch and the ell is still yours. This latter trait is possibly due to his self-satisfaction. He probably feels that from the standpoint of his own ancient well-stabilized civilization American citizenship has nothing in its gift which he very much desires. He is therefore an ideal resident of another man's country.

The Japanese is a horse of the same colour but of a very different disposition. He is restless, ambitious, enterprising, antevert, willing to forego the immediate ad-

SPANISH-HAWAIIAN GIRL
(Photo by R. J. Baker)

PORTUGUESE-HAWAIIAN GIRL
(Photo by R. J. Baker)

vantage for the larger end. Much more outwardly adaptable than the Chinese he tends to identify himself with his adopted people and to demand the rights of citizenship. An instance of this identification was afforded recently in the debate between the Universities of Oxford and Hawaii. In the course of the debate one of the Japanese members of the Hawaiian team, without appreciation of the significance, humorous or otherwise, of his remark, spoke of "the ideals for which *we* fought in 1776!" There is evident a desire to claim not only the rights but even the traditions of Americanism!

The Portuguese, like the Japanese, are certainly not noted for their tact or conciliatory qualities. In this respect they rank almost as low as the Porto Rican. In comparison with both Oriental races they are impulsive, irresolute and excitable, three traits usually associated with the so-called "Latin temperament." Whether it is proper to speak of "thrift" as an innate quality is doubtful but there is little doubt of the inheritance of impulsiveness and the other characteristics of the extrovert temperament. The Portuguese in Hawaii, though two generations removed from the original immigrants, apparently possess the traits that are generally recognized as characteristic of their race elsewhere. Their best ratings are with regard to resistance to suggestion and stability of interest. In the majority of cases thrift and providence are characteristic of the Portuguese. Unfortunately their rating in dependability is not very high.

Notwithstanding the fact that the Hawaiians who were rated included many of mixed blood, they are perhaps the most interesting group, as representing a people whose contact with civilization has been comparatively short. The evenness of the Hawaiian disposition is shown by the high ratings earned in such traits as conciliatory attitude, where he leads all other racial groups, and also in the

more emotional traits of impulsiveness and excitability. His is altogether an easy-going nature, emotional displays, if frequent, being transient and going but little below the surface. His emotional equilibrium may be easily disturbed but the balance is readily restored. The shallowness of his emotional life is shown by the fact that though he is very affectionate in his attitude towards children, he is often quite willing to exchange offspring with a neighbor or friend. Family responsibilities in general sit lightly on his shoulders.

The easy emotional stimulability of the more primitive races is often mistakenly considered indicative of an entire lack of self-control. Over-emotionality is just as common a defect in civilized communities as anyone who has attended a religious revival can testify. In the ceremonies of initiation primitive man will display a degree of physical self-control far beyond the capacity of the more highly cultured white man. In the observances of "tabus" remarkable restraint is also exercised.

According to the given ratings the worst defects of the Hawaiian temperament are his deficiency of planning capacity, extreme suggestibility and instability of interest. Those who, like Huntington, would ascribe great importance to environmental and climatic conditions might find interesting confirmation of their views in these ratings. The climate of Hawaii, frequently variable but within narrow limits, finds a counterpart in the lightly swayed, affectionate and easy going disposition of its people. Fertility of soil and frequency of rainfall bring about most productive conditions and render physical subsistence easy. Since there was no need for the exercise of planning capacity and foresight, there was nothing to cause a natural selection in favour of the thrifty and provident. Such resolution and courage as the Hawaiians possess—and in this they are rated a little superior to the

Portuguese—were undoubtedly conserved by their tribal wars. Their lack of dependence upon reason, their former submissiveness to priests and superstition, and their present-day suggestibility, which is evidenced by their tendency to be over-swayed and influenced by a glib tongue, undoubtedly became characteristic of their behavior because of their long isolation from other races. This limited their experience to one set or system of ideas and forbade them the exercise of judgment in the balancing of alternatives, conditions from which we may suppose that the ability for self-determination and hard-headedness arose in other races. The tender-mindedness of the childish stages of development still clings about this interesting people. Evidently a certain variety of experience is necessary to toughen our mental fibre thus making us less a prey to the plausible and deceptive. Apparently the nomadic habit of life is the one that best develops mental keenness and shrewdness of decision, simply because momentous decisions are so often called for. Unfortunately nomadism also develops a wildness and instability and an independence that are the foes of settled institutions, without which there can be no racial progress. Perhaps the most favourable conditions for the development of mental keenness plus mental stability are those in which the swords and spears of the foraging nomads have by force of circumstances had to be beaten into peaceful ploughshares. Such are the conditions which have made the Scotch what they are. In their meagre soil, the ploughshare would have been ineffective to support existence if it had not some of the steel of the sword point in it, and this hardness and keenness seem to have entered into Scotch racial composition. How different the conditions of existence in tropic islands! Here there is neither multiplicity nor importance of situations to be dealt with. Even the most suggestible among us

might learn the useful lesson of skepticism if we only could have the span of life extended sufficiently. A generation is too short for us to learn all the lessons that life has made ready for us. Just as experience becomes rich enough we either die or cease learning. If medical science could extend the span of life considerably, or if mental hygiene could keep us at the prime of our powers a little longer some of the weaknesses of human nature might be eliminated. Suggestibility and instability of aim are certainly two of the worst of these and are probably closely related. The man who is swayed too easily as regards his ideas or course of action is not likely to be characterized by any strongly dominant interests, and if his point of view and attitude change readily he is unlikely to inspire the trust and confidence of others. Life in the sub-tropics provides little that might serve as a whetstone for mental keenness and the capacity for hard-headed choice, so that suggestibility is rarely overcome.

The effect of the mild variability of Hawaii's climate is undoubtedly to be seen in the character of its people. They pursue nothing very ardently nor very long. Their conditions of life have never imposed upon them that patience with slowly maturing projects, that steadiness of objective and the dour, uncompromising honesty in family and business relations which the rigors of existence have developed in less favourably situated peoples.

The characteristics of the Filipinos have already been discussed in some detail in Chapter VI. There seems to have been a general agreement among our judges that the Filipinos are impulsive, suggestible, unstable and undependable. In these respects they resemble in temperament the Mediterranean peoples who are also predominantly extrovert.

As regards planning capacity and foresight their ratings are significantly low. Among the majority of them thrift

and providence are but little practiced. A policy of opportunism dominates their actions almost entirely. Even to this day in the Philippines the hold of the usurer or moneylender is particularly strong, the native farmer being willing to pay most exorbitant rates of interest for the sake of an immediate loan or accommodation. Yet this improvidence cannot be accounted for on the ground that the Filipinos have never had examples of the results of thrift. As a matter of fact large numbers of Chinese have always lived in the islands, whole colonies of them existing during the early years of Spanish rule, and trade with China has been going on for centuries. If the Filipino had possessed the capacity he would no doubt have emulated the trading methods and economy for which the Chinese have always been noted.

The best ratings obtained by the Filipinos are with regard to resolution and courage in facing difficulties. Most of the judges gave credit to the Filipinos for courage and hardihood, especially if provided with good leadership. The history of the Philippines bears out the view that they were not deficient in these respects. Their reaction to Spanish rule was by no means submissive, revolts being frequent. That they were not successful in attaining independence should not be attributed to their lack of courage so much as to their lack of racial cohesion, the Spanish finding inter-factional and inter-tribal jealousies a far better buttress of their rule than standing armies.

It is quite probable that the ratings given to the Filipinos are prejudiced owing to the fact of their comparatively recent arrival in the Territory. We must take into account the psychological effect on a group of people who are transplanted *en masse* out of one community to another country in which standards of conduct, the societal organization, manners, customs and regulations are en-

tirely different. The old sanctions and repressions are loosened and new inhibitions imposed. There is, inevitably, an unsettling effect, and in many cases the most dissatisfied are the most highly educated. It is they who resent most bitterly differentiations in treatment due to colour, religion or race by the new community. This resentment is frequently not so much on account of the fact that inferiority is attributed to the group as a whole as that their individual claims to special worth and distinction are not recognized by the new community which persists in treating them like the common herd of their countrymen. As an example we may take the case of the Filipino with some education who is regarded as an "illustrado" in his native land. To find himself classed as inferior in his new environment is a rude jolt to his self esteem so that he readily ranges himself on the side of revolt against the order of things in which he finds himself. This may take the form of incitation of his group to strikes and mob action. This attitude is further aggravated by the community's distrust of the newcomer. There is therefore, a tendency of observers to judge rather harshly the unfavourable points of the Filipino's character and disposition, and on the part of the latter to show at his worst. As time goes on we may confidently expect that these unfavourable judgments will tend to be modified. The Filipino will become better adapted to the community and the community more tolerant of his faults.

Another factor to be taken account of in considering these ratings is that a certain selective process operates in the case of re-entrants into the Territory. There is a considerable drift backwards and forwards between Hawaii and the Philippines. The more thrifty and enterprising of the Filipinos, even if they return to their native land, are likely to come back to Hawaii whilst the

dissatisfied immigrant is likely to stay home. To assist this selective process should be part of the definite policy of the Territory. In the long run a stabilizing process may be apparent in the Filipinos, adding considerably to their value as permanent residents. In the meantime there is a considerable call for patience on the part of the community with their rather hapless attempts to adjust themselves to a cultural level, to a standard of morals and to a set of racial habits far higher than those to which they are accustomed.

The importation of Porto Ricans antedates the coming of the Filipinos, yet they have been able to adapt themselves to their new habitat with only a very slight degree of success. According to common report the Porto Ricans who came to Hawaii are by no means representative of their people but were largely selected from amongst the most undesirable strata of the population. We are credibly informed that their physical condition on arrival was extremely bad, many being undernourished and diseased. A remarkable improvement in this regard was brought about by a comparatively short residence in the Territory. Nevertheless judgments rather generally concur in placing the Porto Ricans at or near the bottom of the list in almost every social trait. According to these ratings the Porto Ricans as a group show the least planning capacity, are the most impulsive and excitable and are conspicuously lacking in resolution and trustworthiness. Only in resistance to suggestion and in conciliatory attitude do they earn even moderate ratings. Their aggressiveness apparently does not impress itself upon the observers, perhaps because of their small numbers.

Racially the Porto Rican is a hybrid of widely different blood strains, a mixture of Spanish, negro, and aboriginal Indian so that in his racial affinities he may be said to out-Mexican the Mexican. He shares the worst qualities

of the Portuguese and of the Filipino, so that of all the migrants to Hawaii he is probably the worst timber for citizenship. It will be interesting to see whether the second generation will continue to display the defects of character of the first. If so it will be a strong proof of the old adage that "you cannot make a silk purse out of a sow's ear." The evidence already points that way. In the age-grade standards as ascertained by Dr. Stevenson Smith, the Porto Rican comes last, below the Filipino, whilst the Court records show an unenviable position as regards delinquency. Apparently both character and mentality are deficient in this group.

In summarizing the social characteristics associated with race a glance at the chart (Fig. 2) may bring out more graphically some of the racial differences. The well marked superiority of the Japanese over the Chinese in the more active traits of resolution and planning capacity is seen to be counter-balanced by Chinese superiority in the more passive characteristics of resistance to suggestion (self-determination), dependability and tact. The high points of the Portuguese include planning capacity, stability of aim and self determination. These are, conversely, the low points of the Hawaiian and the Filipino characters. The parallelism between the two tropical and sub-tropical races is extremely interesting as well as the antithesis between their traits and those of the Mediterranean race. The Porto Rican psychograph at a higher level would represent throughout most of its course a median line between the Portuguese and Hawaiian. This is interesting because of their origin as a mixture between Mediterranean and tropical races.

The Community Index

The weightings allotted to the ratings of the various traits were the same as those of the individual social ratings scale and were as follows:

Trait 1. Planning capacity 6.
Trait 2. Resistance to suggestion 3.
Trait 3. Inhibition of impulsive action 2.
Trait 4. Resolution or determination 2.
Trait 5. Emotional self-control 2.
Trait 6. Conciliatory attitude or tact 2.
Trait 7. Stability of interest 1.

To these has been added "Dependability" with a weighting of 2. A rating of 5 points in each of the above traits when multiplied by the allotted weighting would make the total possible marks 100. Hence we may express the social efficiency index on a percentage basis. The average judgments of the twenty-five observers give the following weighted indices: Japanese 85.5; Chinese 82.6; Portuguese 60; Hawaiian 51.4; Filipino 33; and Porto Rican 33.3.

These figures are of course only roughly approximate. We cannot assume with surety that the weightings of the individual scale apply equally well with regard to racial groups, nor that the basis of judgment is as accurate as it is when ratings are allotted to individuals. However in this latter respect it is probable that racial prejudice has a no more disturbing effect on good judgment than has personal prejudice regarding individuals. Yet allowing for all sources of error we believe that this first attempt to obtain a numerical estimate of the efficiency of a whole population has its value. The differences between the judges' estimates gives us one measure of the reliability of the ratings, and this matter may be briefly considered in connection with Table 2.

This shows besides the average scores of each race in each trait the standard deviation (S. D.) The size of these standard deviations gives us an idea as to the extent of the agreement of the observers among themselves. A large standard deviation either means that the experience

of the observers differs or it may be due to the fact that the trait in question is very difficult to judge. One most striking thing about the Japanese ratings is that the standard deviation for planning capacity is 0 which means that there was absolute agreement between the observers regarding this trait. The Japanese traits in which there was most disagreement among observers were tact and dependability.

As regards the Chinese there was most disagreement between judges concerning resistance to suggestion and resolution and the closest agreement with regard to dependability. The standard deviations for the Portuguese are very similar in size to those of the Chinese, there being least agreement with regard to their prudence or, conversely, impulsiveness.

Strange to say it was the Hawaiians who seemed to be the most difficult group for observers to agree upon. The ratings have relatively much higher standard deviations. Resistance to suggestion is the trait with apparently the highest S. D. Some observers apparently find them obstinate, others very pliable. This is, we believe, due to a rather peculiar fact of Hawaiian character. They make equally good friends and bad enemies. They are so much swayed by affection that to the person whom they like they are most amiable and plastic but their reaction to the people they dislike can be most unreasonably stubborn and even vindictive. Possibly our ratings reflect the two kinds of experience.

If we accept these estimates as approximately correct we may now proceed to the calculation of the social efficiency index for the community as a whole.

The population according to the 1920 census was in round numbers as given in Table 3.[3]

Multiplying each of these population quotas by the

[3] Koreans and other nationalities not included.

average social efficiency index for each respective race, and assuming 100 per cent efficiency for the Caucasian other than Portuguese, the total of the products works out as 181,099. This is 73.3 per cent of the total possible rating. This too is, of course, a merely approximate estimate but even as such it is capable of important social interpretations.

TABLE 3

Japanese	109,000
Chinese	23,000
Portuguese	27,000
Hawaiians and part Hawaiians	42,000
Filipinos	21,000
Porto Ricans	6,000
Caucasians other than Portuguese	20,000

In the first place the amount that must be spent on all kinds of social and medical relief work must be proportionate to the social efficiency index. With our low social average the amount of social guidance that must be provided in our community is proportionately greater than the amount provided in mainland communities of similar size.

While the connection is not absolutely self evident it is easy to demonstrate that low indices in the social rating scale spell indifferent community success. In individuals low social efficiency indices are thoroughly characteristic of the mentally defective and psychopathic. There is indeed a much closer correlation between scores on such a scale and social sufficiency than there is between scores on mentality tests and social sufficiency. This was shown to be the case in an investigation at Dr. Bernstein's institution at Rome, N. Y., where long continued experiments have been carried out in the paroling of high grade defectives. These individuals after a period of training

in the institution are sent out on parole into domestic and factory situations in the community. Their conduct is very carefully observed and the least successful are returned to the institution. There is probably no more carefully supervised parole work being carried out anywhere than at Rome. The correlation between observed success on parole and social efficiency indices of the girls was .76 whilst the correlation between Binet-Simon test scores and parole success was for the same group of cases only .32. A somewhat similar disparity of correlations was obtained with other groups. Hence there is but little reason to doubt the validity of the social efficiency index.[4]

In other words feeblemindedness being a social condition, the ability to manage oneself with ordinary prudence, which is the distinctive mark of normality, is largely dependent upon one's possession of resolution, planning capacity, resistance to suggestion, self control, stability of interest, and the ability to "get along with people".

What then are the results if a community possesses a low average capacity in these important respects. Irresolution, poor planning capacity and unstable interest cause economic waste, poverty and shiftlessness and social dependency. In the train of these evils comes a greater tendency to disease, necessitating a larger provision of free hospitalization, dental and medical clinics, dispensaries, baby clinics, free nutritional work to say nothing of expensive sanitary supervision. If, too, the community average is low with regard to impulsiveness and emotional self control then we may expect more than the ordinary amount of criminality and social delinquency, entailing extra provision for jails, reformatories, venereal clinics and police supervision. If in addition the com-

[4] Cf. S. D. Porteus. Studies in Mental Deviations. p. 139 ff.

munity is characterized by extreme suggestibility and a racial aggressiveness then you have all the fuel available for industrial troubles of all kinds; and, since suggestibility is by no means confined to the lower social orders, at the other end of the scale we will find unthinking adherence to hasty and ill-advised measures aiming at social reform, measures which are likely to inflame rather than cure the social evils. Add to this the confusion and blocking of progress due to the prevalence of foolish cults and creeds in such a community and a most unhealthy state of the body politic results. National emergencies come seldom it is true, but when they do come the response is likely to be panicky, hysterical or jingoistic.

Finally in enumerating the social effects of deficiency in these traits, we may consider education whose avowed aim is the making of good citizens. How can we expect education to achieve its end if the human material it works with is so inferior? Progress of pupils through the school grades is of course only a partial measure of the extent to which those pupils are being prepared for good citizenship, but that it has significance in this regard cannot be denied. It is possible, but improbable, that children leaving school with a fifth grade education may make good citizens. On the other hand there is every reason to expect a connection between good scholarship and a sense of public responsibility, so that the figures for school advancement are of considerable significance. We have already noted the inferior position of the Filipinos and Porto Ricans both as regards educational status and their social efficiency indices. Assuming then that each dollar spent on education in this community brings us back 100 cents worth as regards teacher-training, physical equipment, wisely planned curriculum and efficient school administration, still the effect of a low average social efficiency index is very similar to having the rate of financial

exchange against us, the dollar being worth only little more than seventy per cent of its face value.

The social and educational problems of the ordinary community are heavy enough; education has lost step with the march of industrial needs and is, as regards vocational guidance, becoming increasingly like an arrow shot at a venture, a hit and miss affair in which much is done with pious intentions but with little practical effect. Social alleviation and effort of all kinds is a disheartening affair, a matter of helping lame dogs over stiles, and when they are over they are still lame. Our industrial schools and reformatories are expensive institutions for keeping children out of mischief, but as a means of reform they are pitifully inadequate and apt to become wells of despond in which the most enthusiastic social workers flounder helplessly. Our other social agencies become in large part mere distributors of the doles that perpetuate dependency and pauperism. If this be true of the ordinary community what shall be expected in a place where the problem is vastly complicated by the presence of racial groups, each with a different mental outlook, different racial habits and with entirely different potentialities for adjustment to the social situation, so that each individual carries the burden of his racial as well as his personal handicaps.

Chapter IX

SOCIAL ADJUSTMENTS AND RACE

HAVING completed our brief historical sketch of the various racial groups in Hawaii and also the analysis of their outstanding social characteristics we may now review briefly what evidence is available regarding their social, educational and economic adjustments.

It is hardly necessary to point out the relation between these social characteristics and social adjustment. Ambition, planning capacity, determination, emotional stability as well as intellectual capacity have an undoubted bearing on social adaptability in general.

We may consider first the status of the various races as regards delinquency and crime. Here the Japanese stand out favourably in comparison with all other races. Notwithstanding the fact that in 1915 they numbered more than 40 per cent of the population only 10 per cent of those appearing before the Juvenile Court were Japanese. At this late date there was no dearth of Japanese juveniles in the population. The figures for males as given by Gulick[1] were—Hawaiians 222, Chinese 103, Portuguese 90 and Japanese 51. The Chinese with about 11 per cent of the population supplied nearly 20 per cent of the juvenile offenders. The Hawaiians easily occupied the most unenviable position as regards these records of juvenile delinquency. The figures for females are even more creditable to the Japanese, only 3½ per cent of the cases belonging to this race.

[1] Gulick, Sidney L. American Democracy and Asiatic Citizenship.

The situation seven years later is similarly favourable to the Japanese. Basing the calculations on the figures given in the 1922 report of the Governor of Hawaii and working these out in relation to racial proportions in the population in general we find that the comparative ratios of juvenile delinquency would be as follows—Japanese .58, Chinese 2.2, Portuguese 3.1, Hawaiian 5.0 and other races 7.1. It should be noted that the Portuguese have now moved from second to third place indicating an increased degree of juvenile immorality as compared with 1915. This is in line with the opinions of observers that the younger Portuguese are less law-abiding than their elders. Otherwise the figures speak eloquently of the self-restraint of Japanese youth and the excellence of their home control.

As regards adult criminality the situation at the present time can be appreciated by a glance at Table 4 and Figure 3 which are based on the records showing the race of the inmates of the Territorial Prison during 1922. It will be seen that in proportion to their quota of the total population in the islands the Japanese, as regards adult criminality, occupy by far the most creditable position. The Portuguese come next with more than two and one half times the Japanese criminality and are closely followed by the Chinese. Next in order are the Hawaiians. It should be noted that their figures for adult crime are better than their figures for juvenile delinquency bearing out our previous statement that Hawaiians' misdemeanors are rather those of irresponsibility than viciousness. The Filipinos occupy the fourth place and the Porto Ricans are distinguished by having the largest proportion of criminals in jail. It is a matter of common report that the Porto Rican government embraced the opportunity of sending many of its undesirables as immigrants to Hawaii. If this is so it would help to explain the undesirable posi-

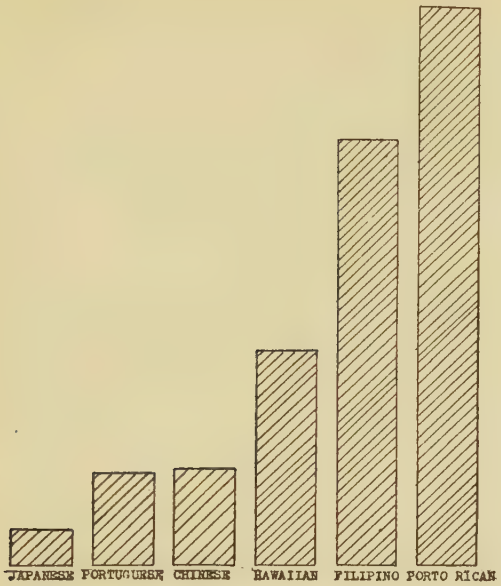


FIGURE 3

RACE AND CRIMINALITY
Percent. of Jail Inmates Relative to Population

TABLE 4

CRIMINALITY

Proportion of Jail Inmates to Population in Hawaii

Ancestry	Total Number In Hawaii	Number in Jail 1922	No. per 1,000 Jail Inmates
Japanese	117,047	69	.59
Chinese	22,745	36	1.58
Portuguese	26,093	40	1.53
Hawaiian	40,606	145	3.57
Porto Rican	6,329	59	9.32
Filipino	30,763	218	7.08

tion of this group in the crime records. Incidentally our table would indicate that the second generation—the fruit of the Porto Rican family tree—is, morally speaking, none too sound.

Perhaps a better way to gauge the extent of the law-breaking proclivities of the various races would be to take the Supreme court figures for convictions extending over a total period of ten years (1914-1924).

TABLE 5

SUPREME COURT CONVICTIONS
1914-1924

Percentage of total cases in each offence

	Japanese	Chinese	Filipino	Hawaiian
Fraud, Embezzlement, Forgery	14.5	12.6	14.0	17.5
Liquor Laws	55.0	13.5	4.7	6.5
Narcotic Laws	1.0	70.0	0.75	0.75
Gambling	38.0	11.4	35.0	4.2
Drunkenness	11.5	1.0	7.7	22.0
Robbery and Burglary	8.0	5.0	27.2	33.0
Offences against chastity	8.5	3.0	42.2	22.5
Murder and Manslaughter	15.0	4.1	44.5	10.5

NOTE: This table cannot be interpreted as a comparison of criminality by race as there is no account taken of proportionate population. It shows, however, to which class of crime each race is liable. We are indebted to Professor Romanzo Adams for the figures on which this table is based.

These figures also show the Japanese occupying a similarly favourable position as regards criminal convictions in proportion to their quota of the population. An analysis of this table shows that the offenses most common among the Japanese are those against the liquor laws in which they provided 55 per cent of the total convictions—a percentage in excess of their proportion of the total population. They also were convicted of 38 per cent of the gambling offenses. As regards drunkenness and crimes of violence their percentage of convictions was low. The Chinese provided 70 per cent of the offenses

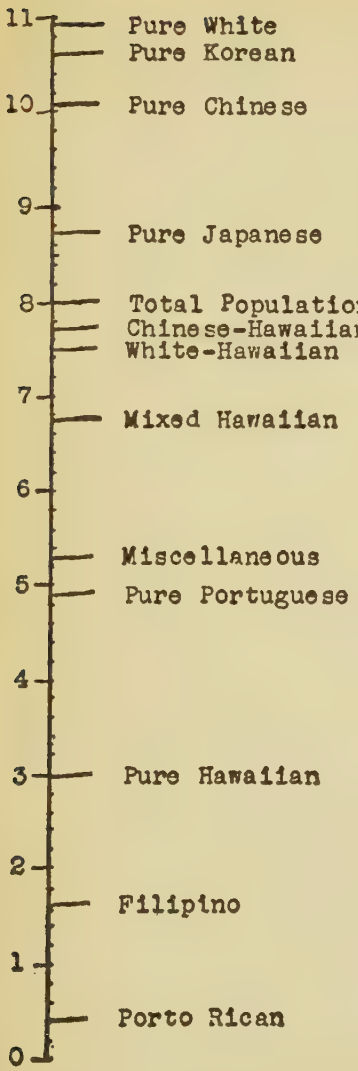


FIGURE 4
School Advancement

against narcotic laws and after this their most common offenses were those grouped under fraud, embezzlement and forgery, and next to these gambling. The Hawaiian's most common offenses were drunkenness, offenses against chastity, robbery and burglary. Crimes of violence and gambling are the most common offenses among the Filipinos. The percentages are given in Table 5.

We may now consider the position of the races as regards their adjustment to the school situation. Dr. Stevenson Smith has made such a comparison using as a basis the distribution of Honolulu children in the school grades according to age. His object was to compare each racial group with the average grade standing of the children as a whole. The comparative school advancement of each of the races is shown in the accompanying figure. It will be seen from this chart that the Chinese are a little

more favourably placed than the Japanese and that the part-Hawaiians are ahead of the Portuguese who in turn are followed by the pure Hawaiians, the Filipinos and Porto Ricans being at the bottom of the scale. Smith's chart runs from an arbitrary zero to eleven points so that reducing his results to a ten point scale the position of the races in which we are interested is as follows—Chinese 91, Japanese 88, Portuguese 45, Hawaiians (pure) 30, Filipinos 15 and Porto Ricans 4. It is interesting to note that the order of races is almost the same as the order of their social efficiency indices, the Chinese displacing the Japanese in first position.

This matter of school advancement is of course very largely, but not wholly related to intellectual capacity. Progress in school is to some degree dependent upon other traits as well as intelligence. This is shown clearly when we come to compare the achievement of University students in Hawaii with their intelligence ratings. The entering freshmen of the University of Hawaii in the years 1922 and 1923 were given the Thorndike Examination for High School Graduates. This consists of four papers which together constitute a three-hour examination. The tests given are varied—extent of common information, mathematical ability, ability to follow directions, special questionnaires involving basic knowledge of different branches of physical sciences, and some very searching tests of reasoning, as shown by the students' ability to answer questions based on difficult prose passages and to fill in blanks in incomplete sentences. The last-named tests pre-suppose a rather thorough knowledge of English. Memory is also tested in various ways.

In both 1922 and 1923 the white students at the University of Hawaii had the highest average intelligence rating by these tests, the Japanese being second, with the Chinese a close third. In the following year the same

relative positions were occupied by these racial groups. But when the scholarship records as indicated by the grade points were calculated at the end of the year the Japanese took first place, reversing the advantage held by the whites in intelligence ranking. The Chinese were below both the Japanese and whites in average scholarship as in intelligence. The figures are given in Table 6, the results for the two years being combined in order to make the groups statistically satisfactory.

TABLE 6

INTELLIGENCE, SCHOLARSHIP AND RACE

Nationality	No. of cases	Thorndike Score	Scholarship Record	English Tests
White	65	70.2	19.9	10.87
Japanese	60	61.6	21.9	7.4
Chinese	43	59.7	18.6	7.77

Column number 5 of this table gives average scores in the 1923 examination for the English tests alone. These figures show that the whites had a natural advantage through familiarity with English which may account in part for their higher intelligence rating. The success of the Japanese students in their scholarship records is all the more remarkable. It is quite evident that the qualities of persistence, determination and industry have more than made up for any inferiority in tested intelligence.

Another means of estimating the comparative school adjustment of the races is to take the number of cases referred to the Psychological Clinic for examination. These were considered by the teachers as the most retarded children in their classes and were examined as regards their mental status. Table 7 gives the data in detail. The second column gives the total number of children of each race in attendance at the schools of Hawaii. The expectation is, that if mental retardation is as frequent in one race as another the cases referred for mental

examination should be somewhat in this proportion. Column 4 gives the actual ratio per thousand of the school population. Comparing these figures it will be seen that there is least mental retardation among the Japanese, the Chinese taking second place followed by the Filipinos, Hawaiians, Portuguese and Porto Ricans in the order named. The next column gives the numbers found to be markedly subnormal or feeble-minded whilst column 6 expresses these also as ratios of the school population.

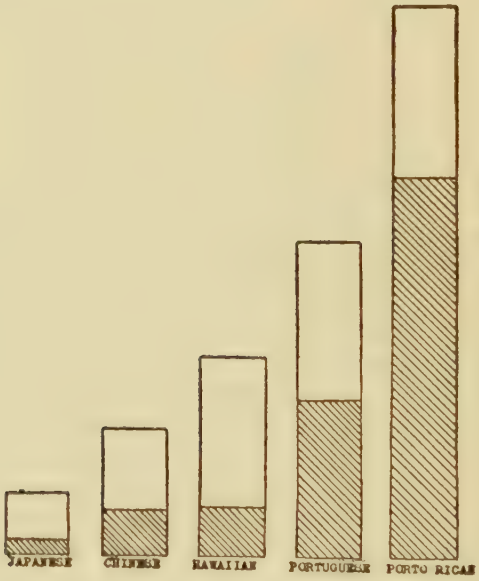


FIGURE 5

RACE AND MENTAL RETARDATION.

Clinic Cases in Proportion to Population.

(Shaded area = percent. of feebleminded.

It should be noted that the proportion of markedly subnormal among the Hawaiians is considerably less than among the Filipinos even though the number referred for examination is greater. This disparity is probably due to the fact that teachers referred not only the very dull but also some of their behavior problems for examination. The tendency of the Hawaiian to juvenile delinquency has already been noted.

TABLE 7

MENTAL RETARDATION AND RACE

Cases Referred to Clinic for Examination

Race	No. in School	No. Examined	No. per 1000	No. Sub-normal	No. per 1000
Japanese	23,624	61	2.58	15	.635
Chinese	4,736	25	5.28	9	1.9
Filipino	1,590	11	6.92	8	5.03
Hawaiian	8,846	74	8.37	18	2.03
Portuguese	5,894	78	13.22	39	6.6
Porto Rican	1,247	29	23.2	20	16.0

The schools from which these cases were drawn were scattered over a wide area in the four main islands. The total attendance would be approximately ten thousand children so that they may be considered a representative sample of the school population. Hence it is very probable that the figures given will approximately indicate the comparative incidence of mental retardation according to race. The inferior position of the Portuguese and Porto Rican is surprising. The total in column 5 is 109 cases which means that about one per cent of school children are feebleminded.

The conclusion we may arrive at with regard to educational adjustment is that the Oriental races are in a very favourable position. The early advantage of the Chinese over the Japanese as regards grade standing is not apparently maintained when it comes to college achievement. It should be remembered however, that the Japanese stu-

dents at the University represent a selection from a primary school population five times larger than that of the Chinese. Consequently since the field of choice is wider, the Japanese at the University may represent a more highly selected group than the Chinese. As regards the lower end of the scale of ability the Japanese apparently enjoy a rather marked advantage over all other races when it comes to the incidence of mental retardation. (See Fig. 5).

With regard to economic adjustments it is very difficult indeed to make any adequate comparison because of the different length of time that the races have been resident in Hawaii. Some idea of the industrial trends of the races may be gained from the distribution of the occupations of the fathers of 795 children who were examined for research purposes in the Honolulu public schools. Of these 333 were Japanese, 306 Chinese, 83 Portuguese and 67 Hawaiian or part-Hawaiians. The occupations have been grouped in five sub-divisions. The first or A division includes mainly individuals doing clerical work, foremen, and men with higher technical training. The second or B division includes those engaged in skilled trades. The third consists of those engaged in small independent business ventures. It would be difficult to place these three divisions in any order as regards intelligence required. Those in A division require perhaps more schooling, in B division more technical training and in C division more capital. The semi-skilled are placed in division D and the unskilled in division E. The occupations as we have listed them appear in Table 8, the percentage distribution according to race in Table 9.

An analysis of the list shows the marked tendency of the Chinese to engage in small independent trading ventures such as retail dealing and farming. Forty-four

TABLE 8

Classification of Occupations of Parents of Children Examined

A	B	C	D	E
Occupations Requiring Technical Training or Involving Responsibility	Skilled Labour	Occupations Requiring Capital	Semi-Skilled Labour	Unskilled Labour
Architect	Art Metal Worker	Baker	Barber	Fisherman
Aviator	Blacksmith	Butcher	Conductor (trolley)	Laborer
Bookkeeper	Carpenter	Dairyman	Delivery Man	Peddler
Business Agent	Cement Worker	Farmer	Factory Worker	Rat Catcher
Cashier	Cook	Florist	Hospital Attdt.	Train Cleaner
Clerk	Chauffeur	Hotel or	Laundryman	Stevedore
Contractor	Fireman	Restaurant Owner	Mail Carrier	Yardman
Druggist	Goldsmith	Ice Cream Maker	Policeman	
Electrical Engineer	Iron Worker	Jeweler	Soldier	
Fire Dept. Captain	Machinist	Rice Planter	Steward	
Foreman	Mason	Undertaker	Teamster	
Lawyer	Mattress Maker		Waiter	
Locomotive Eng'r	Painter			
Manager	Photographer			
Milk Inspector	Plasterer			
Newsp'p'r Reporter	Printer			
Principal, School	Pump'g Plant Emp.			
Priest	Shoemaker			
Purser	Tailor			
Road Master	Tinsmith			
Sales Clerk	Watch-maker			
Stationary Eng'r	Water-luna			
Surveyor				
Yard Master				

TABLE 9

Occupational Classification

Showing Number and Percentage of Cases in Each Group

	JAPANESE				CHINESE				PORTUGUESE			HAWAIIAN		
	No. Cases	Average Maze I. Q.	No. Cases	Average Binet I. Q.	No. Cases	Average Maze I. Q.	No. Cases	Average Binet I. Q.	No. Cases	Average Maze I. Q.	Average Binet I. Q.	No. Cases	Average Maze I. Q.	Average Binet I. Q.
A CLERICAL WORK—FOREMEN	51 15%	98	27 17%	85.7	36 12%	90	12 8%	91	25 30%	91	86	16 24%	98	89
B SKILLED TRADES	119 36%	100.3	52 32%	84	89 29%	100.8	52 35%	86	30 36%	91	86	23 34%	94	87
C INDEPENDENT BUSINESS	70 21%	99	34 21%	85	136 44%	91	63 43%	86	5 6%	98	88	2 3%	100	102
D SEMI-SKILLED	52 16%	97	26 16%	86	32 10%	88.4	14 10%	89	10 12%	93.6	81	13 19%	95	82
E UNSKILLED LABOR	41 12%	96	22 14%	82	13 4%	96.5	6 4%	93	13 16%	85	83	13 19%	96	78
TOTAL NO. OF CASES	333		161		306		147		83			67		

per cent of the Chinese are classified in division C; 21 per cent of Japanese are found at this occupational level as against 6 per cent of the Portuguese and 3 per cent of the Hawaiians. The most pronounced tendency of the Japanese is to enter the skilled trades, over 36 per cent of their total being found in division B. The favorite occupation is carpentry (17 per cent). The largest percentage of the Portuguese is to be found also in the skilled trades. This too is true of the Hawaiians, 34 per cent of whom are engaged therein. It is noteworthy also that large percentages of these two races are to be found in division A, mainly as foremen or clerks. These high percentages are however, counter-balanced by the fact that large percentages are also to be found in the ranks of the unskilled—16.7 per cent of the Portuguese and 19 per cent of the Hawaiians. This indicates a good deal of variability in both races as regards industrial level. Twelve per cent of the Japanese are unskilled workers but in considering this fact we must remember that Japanese labourers continued coming to Hawaii for a number of years after Chinese and Portuguese immigration ceased; hence there has been considerably less time for them to ascend the industrial ladder.

The most popular occupations among the Chinese are those which run along lines already familiar to them in their own land and which consequently require a lesser development of new forms of skill. No fewer than 28 per cent of the Chinese are retail dealers, the occupations next in order of frequency being farming, cooking and tailoring; carpenters, painters, chauffeurs and clerks being less fully represented. The Japanese choose carpentry first, the occupations next in order of frequency being retail dealers, chauffeurs, contractors, painters and factory employees. The greater bias of the Japanese to skilled occupations is thus apparent. Of course these figures do

not represent the state of affairs for the whole Territory but are useful as illustrating the industrial tendencies in the two races when they are able to break away from the conditions of ordinary manual labour on the plantations.

It may be interesting in passing to compare observations that have been made with regard to the economic adjustments of the races in the Territory with experience with some of the same races on mainland U. S. A. Jenks and Lauck[2] in their study of immigration problems make some comparisons of the races. Speaking of experience with Japanese in Florida and Texas who were driven out of California by anti-oriental measures, they note their ready adaptability. "They soon learn American methods and the English language; most of them have invested comparatively large amounts of capital in their enterprises and some are agricultural students."

With regard to the Chinese and Japanese in California these authors make some very interesting comparisons which go to prove that mainland and Hawaiian experience with these peoples run along parallel lines. The Chinese have not proved themselves particularly successful in manufacturing, but in fruit and fish canning, garden and orchard hand work where faithful and careful efforts are needed, their labour is much in demand. In fish canning particularly they are entrusted with important contracts. As independent agriculturists, however, they cannot compete on equal terms with the Japanese who are said to be "apparently more progressive and quicker." Constant reference is made to the greater trustworthiness of the Chinese so that preference by employers is not so much a tribute to their efficiency as to their conscientiousness. Though we do not wish to press the parallel too far, we may say that here again are evidenced distinctly feminine traits of temperament in the Chinese. As in Hawaii the

[2] Jenks, J. W. and Lauck, W. J.—"The Immigration Problem". 5th Edition 1922.

Chinese in commerce are for the most part engaged in small retail businesses.

The mainland Japanese through that readiness to organize and plan for common advantage which in Hawaii was noted as one of their tendencies, have through their collective bargaining gained many advantages in the way of higher wages. In order to get a foothold in an industry they have been willing to accept very low wages at first, and then when the field is clear from other labour competition they have combined to force their wages up. This kind of foresight has also helped to establish them as tenant farmers. Through cooperation they have been able to take hold of tracts of formerly unproductive land and make a living. Such is their eagerness to become independent of wages that they frequently have obtained and held control of land even though the chances of immediate gain have been slight. In this way or another they have managed to get into their hands large tracts of land in California and have practically monopolized certain forms of fruit and vegetable farming. This helps to account for their unpopularity on the Pacific coast. In similar fashion, through their ability to organize and cooperate, they have gained control of the fishing industry in Hawaii and have shown the same unpopular pertinacity in pursuing an advantage. Japanese facility in learning to use effectively the weapons of our own modern industrial and business competition is naturally the thing which excites our resentment most. It is always aggravating to be beaten at one's own game by those we consider our imitators.

Further tribute to Japanese adaptability and foresight is given by Jenks and Lauck (p. 250).

"They have also shown considerable capacity for adopting American customs, much more than the Chinese or even Mexicans of the lower working class. They seem

desirous to learn western ways and methods and externally at any rate they conform to the customs of the time. They make very earnest efforts to learn English; they take up the studies that the Americans have in their schools; they adopt American dress; and although in religion they are as a rule either free thinkers or Buddhists, still they make no opposition to the Christian faith and a considerable number of them are professing Christians . . . .

The Chinese are considered to be much more trustworthy workmen, much more faithful to their employers, uncomplaining, easily satisfied with living quarters, not ambitious to establish themselves as independent farmers, while the Japanese on the other hand are often inclined to take advantage of every opportunity to push themselves forward as regards wages and also socially even at the expense of violating an existing contract."

The picture that we gain from these comparisons is substantially the same in outline as we have drawn from Hawaiian experience. The Japanese on the mainland is the same alert, aggressive, farseeing, selfish and unscrupulous individual as we find him in Hawaii. The Chinese is patient and conservative, content with small advances or accepting the situation as it stands, trustworthy in business dealings, non-progressive and with little group cohesion. The Japanese is particularly sagacious in sizing up a situation and foreseeing its trends, and ready to adapt himself to its changes. Where the two oriental races are in competition together, it is a contest of Japanese adaptability against Chinese character. This results in a rather clear-cut differentiation as regards the lives or modes of activity in which each race is most successful.

It may of course be objected that this emphasis on the adaptability of the Japanese is quite needless and that we have only to consider the history and progress of the

Japanese nation to realize this fact. But the important point of this whole discussion is that we are pointing out the adaptability, not of the leaders of the nation only, but of the people of the lowest social grades, a quality which is not equally apparent in people of other races.

The Portuguese in continental U. S. A. may differ somewhat from those in Hawaii, having come in large part from Portugal itself. In the East they are known as efficient farm labourers. Many of them are to be found in Rhode Island. The 'white Portuguese' are the permanent agricultural labourers, the 'black Portuguese' the seasonal labourers, who according to Jenks and Lauck tend to have a much lower standard of living than permament labourers of their own race (p. 98). These authors note the extreme thriftiness of the Portuguese but also state that though they have a strong desire to launch out into ventures on their own account, they seem to be slower than Italians, Japanese, Germans and Russians in establishing themselves as independent farmers.

Part IV

BRAIN DEVELOPMENT OF RACES

Chapter X

BRAIN CAPACITY AND INTELLIGENCE

THOSE whose interest was first directed toward the problem of the assessment of individual human values in some form or another, were consistently obsessed with the idea that there should be some short cut to estimating a man's mental worth other than by summering and wintering with him. A great deal of time is consumed in taking stock of a man's aptitudes even when they are discovered through his accomplishments. It is so much more difficult to predict his potential value in advance of achievement. If it were true that a man's whole past and future were somehow written about him, and we were skilled enough to read, what inestimable importance this character insight would have. For character expresses itself in a thousand ways—in a man's mien, in his habits of speech and action, in his walk, in his carriage or his laugh. All of us, we are convinced, read character better than we can tell. So-called instinctive likes and dislikes are often confirmed by fuller acquaintance. Small wonder is it that in the search for the key to personality we have neglected not even the most trivial signs—the form of a man's writing or even the lines of his hand have been suggested as possible clues to individual character.

It is hard indeed for us to give up the notion that some one sign or physical trait will be found to be all-revealing. The brand of Cain, the devil's cloven hoof, are manifestations of this wide-spread belief that each carries visibly about him the sign of his inner nature. It was not at all strange that science which so often follows the leads of

popular belief should begin to investigate the grounds for this notion, and should also endeavour by its own methods to discover the index of character or mentality in certain physical traits.

For a time the variations of conformation in the skull received an altogether unmerited importance. The phrenologist's chart showing the human head all nicely surveyed into little rectangular allotments and plastered over with such high sounding traits as philoprogenitiveness, amativeness, ideality, and the like, was a familiar exhibit and is still to be seen. Through its appeal to the credulity of self-love, phrenology made a deep impression on many, and even with the disproof of all its claims it dies hard.

Through the work of Lombroso, the Italian anthropologist, it was believed for a long time that an index of character was obtainable through certain physical measurements. The criminal or the potential criminal was supposed to have about him certain physical defects or stigmata of degeneration, as they were called, which were somehow associated with the warps and twists of his moral nature that pre-disposed him to anti-social conduct. Accordingly considerable attention was paid to malformations of the ear, or of the palate or to certain asymmetries of the form of face and body in the hope that they might prove the clues to character. But this work, too, was ill-founded from the scientific view point. It was shown that these so-called stigmata of degeneration were very widely distributed among the non-criminal population, and although they were undeniably defects in physical development they had little to do with personality or character.

Following Camper, a great deal of importance was attached to the facial angle, affected chiefly by the degree of prognathism or projection of the lower jaws. As this

is a more or less stable feature in racial physiognomy it has been by some elevated into an index of racial standing. The underlying assumption in all these physical comparisons is stated directly by Brinton[1]—"We are accustomed familiarly to speak of higher and lower races, and we are justified in this even from merely physical considerations. These indeed bear intimate relation to mental capacity and where the body presents many points of arrested or retarded development we may be sure that the mind will also." In substance this view is correct. As a matter of fact, physical defects are exceedingly common in mental defectives and the lower the mental standing the more numerous the physical deficiencies tend to be, but we are by no means correct in assuming that such things as prognathism represent an arrest of physical development. They may be merely an indication that development has not been arrested but has proceeded along different racial lines. It has been pointed out by Boas[2] that there is an unjustifiable tendency among some anthropologists to regard any deviation from the general characteristics of the white race as a defect of development.

Faith in physiognomy as the revealer of character has not even in these days been wholly discounted. There are still half a dozen systems of character analysis dependent upon physiognomy which manage to bring in lucrative returns to those who practise them. All these systems are different and all claim equal measures of success. Physiognomy however, has no claims to scientific value other than as a half-truth or pseudo-science and will undoubtedly fall in the end into universal disrepute.

A more direct approach to the problem of the evaluation of character and intelligence would seem to lie in the consideration of the capacity of the brain itself. We

[1] Brinton, D. G. Races and Peoples. P. 47.
[2] Boas, Franz. The Mind of Primitive Man. P. 3.

know that cerebral activity depends upon cerebral structure. There are some millions of nerve-cells or neurons in the gray matter of the brain and from these come many millions of branching nerve processes, delicate filaments of conducting nervous tissue that bring the nerve cell into communication with other nerve cells or with distant parts of the body. All of these nerve processes, each insulated with a sheath of myelin, must be packed into the white matter of the brain so that the failure of development of any considerable number of these in any area of the brain is reflected in a diminution of brain size. It is probable that the great and rapid growth of the brain in the early years of life is closely connected with the growth and myelination of these fibres. In the congenital deaf and dumb the failure of the centres in the brain for hearing and speech to become stimulated by impressions from the outside world results in a diminution of brain capacity.[3] In the blind also the sense deprivation results in lessened brain growth.[4] (See Figure 7). Hence as the developing intelligence requires a larger brain it seems only natural to suppose that there should be an intimate association between the size of the brain and the amount of the intelligence. But while there is a general relation, it is disturbed by so many other conditions that unfortunately brain size does not provide us with as direct an approach to mental diagnosis as would at first appear. What its actual value is and the reasons for considering it of importance, even though it fails to provide a reliable key to individual intelligence, may be brought to light in our further discussion.

The first difficulty is that we have no means of actually measuring or weighing the brain in the living person. To estimate brain capacity we are forced to use certain head

[3] Berry and Porteus—"Intelligence and Social Valuation".
[4] Porteus, S. D.—"Studies in Mental Deviations".

measurements on the living and skull measurements on the dead. This is the first source of error because in the living person we are measuring not only the brain but the thickness of the skull and the soft parts of the scalp as well, things which differ in different persons. This error is reduced by using diametral measurements rather than by measuring the circumference of the head. It may further be reduced if instead of measuring the head itself we take X-ray photographs from given distances and after making certain corrections, measure the brain shadow instead of the outside of the head. This, according to a method worked out by Stevenson and Porteus[5], enables a more correct measurement of the brain in at least two of the three diametral measures that must be taken in order to calculate the brain capacity of the living person.

The formula for finding the brain capacity from the three head measurements of maximum length, maximum breadth and auriculo-bregmatic height has been worked out by Dr. Alice Lee in Pearson's laboratory in London. This formula gives the capacity within a five to six per cent error when the measurements are taken on the head. This has been verified by measuring the heads of subjects in the dissecting room, then removing the brains and measuring their actual capacity either by finding how much water the cavity of the head would hold or by finding the water displacement of the brain itself.[6] The latter method gives the more accurate estimation because the skull cavity contains not only the brain but a certain quantity of fluid as well as the blood vessels and the mem-

[5] Methods to be described in a forthcoming paper.

[6] Anderson, J. H. — "An investigation as to the most accurate method of estimating the cubic capacity of the living head, together with some remarks on the relative thickness of the cranial integuments." Journ. Royal Anthropol. Institute. Vol. XL. 1910. Page 264.

branes that envelop the brain. The proportionate volume of cerebro-spinal fluid may vary markedly in different people. Another source of difficulty in working out the relation between brain volume and intelligence lies in the fact that in the brain substance there is considerable non-nervous material which envelops the nerve cells and processes as a supporting tissue and is called neuroglia. This too, under certain conditions, is increased very much in amount so that it is not only possible to have a large skull with a small brain in it but it is also possible to have a large brain very poorly organized for functioning.

Hence even though it is possible to arrive at a fairly accurate estimation of the size of the brain it is a much more difficult problem to state the connection of brain volume with intelligence.

It is a well known fact that during the whole time that intelligence is increasing in the individual the brain is also increasing in volume and weight. The period of most rapid growth in intelligence is also the period of most rapid growth in the brain. The latter about doubles its volume by the end of the first year and almost trebles its volume by the end of the third year. During this time the infant has rapidly developed from almost complete helplessness to a quite remarkable level, not only in motor and sensory activities but in speech, memory and simple reasoning abilities as well. Contrary to some widely accepted statements, such as Turner's, who affirmed that brain development is complete at seven years of age, the brain not only continues its measurable growth through the whole period of growth in stature but it only ceases to increase in size when all the powers, both mental and physical, have reached maturity. In short, the brain not only follows the lines of growth which govern the body as a whole but apparently grows by an impetus all its own which carries its development past the point where

other bodily growth ceases. In no other animal but man —and there are some with great longevity—has there been shown such a steady development through such a long period of time.

In individuals in whom there has occurred an arrest or cessation of brain growth at an early age a condition of idiocy or imbecility exists. Some of these persons have extremely small brains, no larger in fact than the space contained in a man's hands cupped together. Though devoid of any higher reasoning abilities these individuals frequently show a quite remarkable alertness of attention, a considerable development of speech and of the simpler memory processes. They also have almost normal physical sensitivity and motor activity and a normal development as regards the special senses, proving that a very small brain capacity is needed to subserve these functions and conversely that a large part of normal brain growth is required for the higher reasoning processes and for that emotional and temperamental control in which the microcephalic is most markedly deficient.

The study of the few human remains that have been preserved to us from prehistoric times would also lead to the conclusion that along with the rise in culture there has been a corresponding evolution of the brain. That ancient skull cap discovered deep in a river drift in Java, and which was the prototype or forerunner of human development, had an estimated brain capacity of about 900 c. c., only sixty per cent of that of the average man of today and about 300 c. c. larger than the largest simian or ape brain. This amount of brain would be quite insufficient to enable its possessor to respond to the demands of existence in characteristically human fashion. Heads as small as this are only found today in mentally defective persons with a very inferior general bodily development—such as cretins and mongols and the microcephalic imbecile. Con-

sidering that the Trinil man or *pithecanthropus erectus*—the erect man-ape, as he has been called—must have been possessed of a strongly developed physical frame and that for self-preservation he must also have been endowed with quick perception, cunning and resourcefulness far above that of any mental defective, together with probably a keen sense of smell, there must have been but a very little portion of the brain left to subserve the characteristic human reasoning processes.

Next in point of estimated antiquity to the Trinil remains are some skull fragments of an individual discovered at Piltdown in Sussex and called Eoanthropus—the dawn man. The proper reconstruction of this skull is a matter of uncertainty among scientists so that estimates of his brain capacity range from 1040 c. c. to 1500 c. c. with the balance of anthropological opinion leaning towards the lower figure. Elliot-Smith places it at 1100 c. c. which is only about 75 per cent of the average modern capacity. The Neanderthal race probably comes next in chronological sequence and was widely distributed throughout Europe. The brain capacity of this pre-historic man was in many cases small, his inferiority in vertical height of the skull being very marked. In general form though with many points of divergence, the Neanderthal skull resembles that of the Australian aboriginal of today.

In the prehistoric series the men of the Cro-Magnon race, who are considered the immediate ancestors of "homo sapiens"—the man of today—were characterized by a fine physical development including a much larger brain capacity than that possessed by Neanderthal man. But there is abundant evidence that the Cro-Magnons had attained to more than the beginnings of art and industry. Their development in these directions is thus described by Osborn in his "Men of the Old Stone Age."

"After prolonged study of the works of the Cro-Magnons one cannot avoid the conclusions that their capacity was nearly if not quite as high as our own; that they were capable of advanced education; that they had a strongly developed aesthetic, as well as a religious sense; that their society was highly differentiated along the lines of talent for work of different kinds."

Important as this line of evidence appears to be in its bearing on the relation of brain size to intelligence we must remember that the skulls available are few in number and quite possibly in view of the extent of human variability are not wholly representative of the men of their race and time. History goes back such a short way into the black cave of time, and the fragments that have been painfully brought forth are so few in number that man's own story can only be rounded and filled out with conjecture and surmise.

A comparison of living races also shows a relation between average brain size and cultural level. The Australian aboriginals for instance stand very low in the scale of social evolution. Their weapons consist of crudely carved clubs, wooden spears which are merely long sharpened sticks, thrown with the aid of a "woomera" or throwing stick, and that strange implement—half toy, half weapon,—called the boomerang, which is found amongst no other people. The war or hunting boomerang is however, merely a curved club which does not return to the thrower as the ordinary boomerang does. The latter, with its one straight side and its other side bevelled is, however, exactly the shape of each half of a war boomerang when it is split lengthwise. Hence the discovery of its peculiar behavior as a projectile may have been accidental, due to the unintentional splitting of a hunting or war boomerang and the chance throwing of the halves may easily have drawn the attention of the

aborigine to their peculiar flight. The discovery of the boomerang therefore, need not be taken as any proof of inventive skill on the part of the aborigine.

It is noteworthy, too, that the bow and arrow were unknown to this people. Their tools were of the simplest kind consisting of polished stone tomahawks and flint scrapers similar to those that were in use by neolithic man. From this fact it will be seen that the aboriginal Australians rank much lower than the indigenous population of other countries and are almost at the other end of the scale of development from the Caucasian. They may be considered as type survivals from a very ancient period of man's history, who have been protected by geographical isolation from competition with other races. There have been only scanty observations regarding their intellectual status. These go to show that their educational ability rarely carries them beyond the fourth grade in school. Though they compare fairly well with white children up to the age of nine or ten years, development thereafter quickly slows down and probably ceases with the beginning of pubescence. These children are particularly weak in mathematical ability, long division usually proving an impassable barrier. These observations founded on teachers' reports have been partially verified by the application of mental tests. Even with tests independent of language, the average performance of the aboriginal children was much below that of the whites and the older the children the more pronounced was the deficiency.[7]

Berry and Porteus in a recent monograph[8] have compared the average brain capacity of a group of sixty-four adult Australian aborigines with the normal white Aus-

[7] Porteus, S. D.—Mental Tests with Delinquents and Australian Aboriginal Children. Psych. Rev. Jan. 1917.
[8] Berry and Porteus—"Intelligence and Social Valuation".

tralian population. They found it to be only 1347 c. c. which is 136 c. c. below that of a group of University students 19 years of age. This difference—136 c. c.—is about the equivalent of seven years of normal brain growth. Compared with white individuals of average social grade they are at or about a 14 year level. Assuming that in individuals of this grade of society brain growth ceases at about 19 years of age, then we can say that the Australian black at maturity is about five years retarded in brain development as compared with the average white. This means that 14 year old black children are at or about a normal white 10 year level. The educational attainments of the average white boy of this latter level are about fourth or fifth grade standard. Hence if brain capacity were really indicative of educational capacity we should expect to find that 14 year old aboriginal children instead of being in the eighth grade are about up to fourth or fifth grade standards. This expectation is borne out by the facts of their school progress.

The theory that average brain capacity in living races has a relation to status in civilization, gains support from the figures given by Rudolf Martin.[9] He compared the average capacities of two civilized peoples, two semi-civilized, the Malays and the Aino (Ainu), a people of northern Japan, and the Weddas, or Veddahs, a tribe in southern India who are generally considered to be below the level of even the Australian aboriginal. Reference to Table 10 will show the differences in average capacity. It should be noted that the Veddahs (males) are 70 c. c. below the average of Australian aboriginals.

Another race which shows educational aptitudes proportionate to their average gross brain development is the African negro. We have no figures available regarding

[9] Quoted by Forel in 'The Sexual Question.'

TABLE 10

Average Cranial Capacity in Different Races

		Craniums	Men	Women	Differences
Civilized	Badois	48 m. 26 f.	1513	1330	183
	Bavarian	100 m. 100 f.	1503	1335	168 (11.2%)
Semi-Civilized	Malay	26 m. 2 f.	1414	1223	191
	Aino	87 m. 64 f.	1462	1308	154
Lowest Race	Weddas	22 m. 10 f.	1277	1139	138 (10.8%)

the brain capacities but with regard to brain weight they are almost 100 grammes below the average Caucasian brain weight. Villiger[10] gives the following figures—

Australian aboriginal	1185 grammes
Negro	1244 grammes
Malay	1266 grammes
Hawaiian	1303 grammes
Chinese	1332 grammes
Caucasian	1335 grammes

As far as our observations go, the order of brain weights of these races would be the same order as regards educational and general aptitudes. What we have said with regard to the comparative retardation of the Australian aboriginal seems to be true of other more or less primitive races. Mayo, in his study of the mental capacity of the American negro, quotes both Tylor and Dowd to the effect that teachers of children of lower races report that they learn as well as white children until the

[10] Villiger, Emil. Brain and Spinal Cord. Translated from the 3rd German edition by G. A. Piersol, 1912 .

TYPICAL CHINESE BOYS

(*Front View*)

TYPICAL 9, 12 and 14 YEAR CHINESE BOYS
APPROXIMATING THE AVERAGE
RACIAL HEAD FORM.

age of puberty and that at this period a distinct retardation in progress is observable. His own conclusions arrived at from a careful study of white and coloured high school students are as follows—[11]

"The two racial groups considered showed mental differences that were important and constant. In every subject of study the white group attained a higher average of scholarship. In every year of school work, the white group passed in a much larger percentage of studies. The coloured group is always more advanced in age than the white group of corresponding grade. The coloured group requires from a term to a year longer to complete the grammar school course than do the whites. All these important facts point in the direction of a difference in race psychology."

His conclusion is that this difference in scholastic achievement "is due to a real difference in the general mental equipment of the two races—a difference that has been brought about through physiological and mental evolution, and which can never be equalized by processes of education and training." From these conclusions it is plain that the mental correlates of the difference in brain capacity or brain weight between the Caucasian and the negro are not far to seek.

Leaving aside for the present the question of racial differences we may observe that if there is any close relation between brain capacity and intelligence then we should naturally expect that those of the lowest intelligence within the one race should have the lowest brain capacities. Unfortunately for the demonstration of this connection there are certain diseases or conditions associated with feeblemindedness which actually make for an increase in the size of the head. One of these is called hydrocephalus

[11] Mayo, Marion J. Mental Capacity of American Negro, P. 66.

and is an abnormal collection of cerebro-spinal fluid within the cavities of the brain or over the brain surface. This may be of such amount as to distend the head enormously for if it occurs at an early age the internal pressure will prevent a normal synostosis or growing together of the bones of the skull. Other conditions such as congenital syphilis may cause an overgrowth of neuroglia—the non-nervous supporting tissue previously referred to—which accordingly increases the amount of brain-substance without any increase of effective function. Various psychopathic conditions associated with low mental level are accompanied by a quite normal or above normal development in head form and size. Hence the presence of these pathological factors lowers the correlation between head size and intelligence very materially, and prevents any marked dependence being placed on head measurements in mental diagnosis unless these factors can be taken into account.

This subject of brain capacity in the subnormal has been investigated by Porteus.[12] If from the general body of feebleminded all those with abnormal tendencies whether psychopathic or delinquent are excluded, that is, if we confine our study to the well-adjusted cases who differ from the normal mainly in the restricted range of their abilities and not in their general conduct, then we find a rather close connection between the brain size and the intelligence. The average brain capacity of a group of 131 "well-adjusted" feebleminded averaging 14 years of age was 1250 c. c., which is equal to the normal average of 7½ years—about 7 years' deficiency in brain growth. This group contained the lower grade cases, none of them having I. Q.'s above 55. Another group of higher I. Q. level, between 55 and 75, averaged 1273 c. c., which is about the normal level at 9½ years of age. This group

[12] Porteus, S. D.—Studies in Mental Deviations.

averaged 14½ years so that their average deficiency in brain growth may be stated as 5 years. A third group of dull normals were also measured and found to equal the normal average at 13½ years. This group's average chronological age was 18 years so that they were 4½ years retarded in brain development. From these comparisons we may safely conclude that the well adjusted type of feebleminded—and they constitute about 60 per cent of all mental defectives—is markedly below the normal in brain capacity and further that the lower the mental level the lower the brain capacity tends to be.

When we come to consider normal individuals it might seem reasonable to expect a closer relation between the size of the brain and intelligence, since there should be fewer cases of pathological brain conditions. On almost every side it has been accepted that Professor Karl Pearson's studies[13] had definitely proved that a very slight and almost negligible relation existed. As a matter of fact Pearson's principal investigation did not apply to brain capacity but to single head measurements and he showed conclusively enough that there was little or no relation between the individual's head length, breadth or height, taken singly, and the teacher's estimate of his intelligence. In other words the brightest pupils did not tend to be the longest headed or the broadest headed nor those with the greatest vertical head height. But the length of one diameter of the head is by no means a reliable index of the size of the brain. Some with very long heads may have very narrow and low heads as well. Hence in one correlation calculation such individuals would appear among the large headed and in the others would be classed among the small headed. Obviously what we need to know is not

[13] Pearson, Karl—"On the Relationship of Intelligence to Size and Shape of Head, and to Other Physical and Mental Characters."

the relation of intelligence to single measurements but to the capacity as a whole. Investigations by Porteus show that while the correlation is not high it is probably about the order .3 which is much larger than Pearson found with single measurements. A coefficient of correlation of this size is not of much significance as regards the individual but in the group or the race it would be a tendency of considerable importance.

A study by Berry and Porteus[14] in Australia presents some further evidence on this subject. Porteus examined by mental tests two groups of children whose heads were found to be in the extremes of head size. These were children in attendance at public schools and were selected from a group of over 4000 boys who had been previously measured. The cases selected for testing were either below the 10 percentile or above the 90 percentile of their age group. This means with regard to the former group that they had heads smaller than 90 per cent of the boys of their age or with regard to the latter that they had heads larger than 90 per cent of boys of their age. Analysis of the results showed very different tendencies in the two groups. Mental subnormality was three and one half times as frequent in the small headed group as in the large headed. On the other hand intelligence distinctly above the average was five times as frequent in the large headed. This is evidence in support of the view that large headedness is on the whole an advantage in the group. Pitted against each other in any form of intellectual competition the large headed group would excel the small headed because no less than 25 per cent of the number were above average in intelligence and their combined achievements would probably outweigh that of the five per cent of super-intelligent who are to be found among the small headed.

[14] Intelligence and Social Valuation.

Because the examiner used not only tests of educational capacity but those which indicated social and industrial ability as well, we may state that the superiority of the large headed would extend in these directions also. As a group the small headed would be hampered by the fact that almost 50 per cent of their number would be distinctly dull. Yet notwithstanding the fact that cases of superior intelligence are fewer among the small headed, those who *are* superior may be of just as high level as any large headed individual, and the big-headed subnormal person may be fully as deficient as any small headed defective. Cases of small headed men of eminence are frequently quoted but that these should occur is quite in line with the above findings. Though this investigation deals with groups in the extremes of brain capacity within the one race it is probable that a similar advantage would lie with the race of larger brain capacity over one of small, even though genius of equal eminence might occur in each.

It may be, however, that intelligence is not only related to absolute brain capacity but even more closely to rate and duration of development in the individual. This view is put forward by Donaldson [15] who says, "It is to be anticipated that one great difference in races will be found to be in the extent of growth and organization in the nervous system after birth and especially after puberty. Should it turn out on further examination that some of the lower races lose their capacity for later training after adolescence, we should look with interest for the changes in the cerebral cortex in order to determine whether the growth there practically ceased at puberty."

Greater importance may be attached to a given amount of brain growth when it occurs at a later period. The relative increase of mental abilities from birth to one year of age is small, yet the brain during this period doubles its

[15] Donaldson, H. H.—The Growth of the Brain.

capacity—an increase of 500 c. c. From 9 to 13 years of age there is a relatively large increase in mental ability yet the increase of brain capacity during that period is only 60 c. c. Evidently the small relative increase in brain size at this later period is the result of a better organization of the brain for complex functioning and is hence of great importance to the individual. It seems only reasonable to suppose that the brain growth that follows from 13 to 20 years of age is also very intimately connected with the maturing of judgment and increase of general adaptability and emotional control that takes place in this post-pubescent period. This is the viewpoint of Mayo who after quoting Donaldson says, "a longer period of attaining maturity would seem to mean a longer period of plasticity and educability. It would seem to indicate in both individuals and races a capacity for adaptation to a higher and more complex environment."

Boas,[16] however, holds the contrary opinion and believes that "a prolonged period of growth goes hand in hand with unfavorable development while an abbreviated period of growth results in larger dimensions of all physical measurements, and in a superiority of mental activity." Baldwin, Crampton and Lutz are investigators who have independently arrived at the conclusion that physiological acceleration is associated with mental superiority, earlier pubescence being the rule in the mentally advanced. If pubescence in the mentally superior tends to occur a year or two years earlier than it does in the less intelligent then this means that the period of post-pubescent growth is that much longer in the former class. It must be remembered also that too much importance may be attached to the onset of pubescence as an indication of maturity.

A comparison of average brain capacity in the feeble-minded may throw some light on the question of duration

[16] The Mind of Primitive Man.

of brain growth. Figure 6 shows the average capacities of defective males measured at the Vineland Training

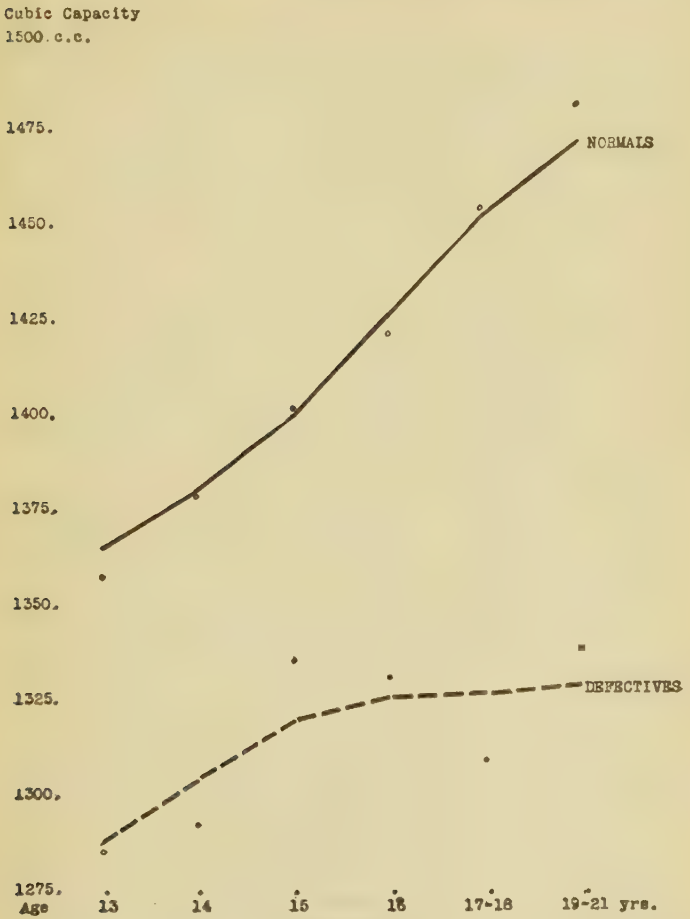


FIGURE 6

POST-PUBESCENT BRAIN GROWTH IN NORMALS AND DEFECTIVES

Curves smoothed, actual point shown by small circles.

School whose ages range through the post-pubescent period from 14 to 21 years. Owing to insufficiency of numbers the 17-18 year and the 19-21 year groups have been combined. The smoothed curve for feeble-minded brain growth is compared with the Berry-Porteus figures for normals. The tendency of the former curve to flatten out is distinct and points to the conclusion that with the exception of certain pathological cases the duration of brain growth is not as long in the feeble-minded as in the normal educated class.

TABLE 11

POST-PUBESCENT BRAIN GROWTH

	DEFECTIVES		NORMALS	
Age	Number of Caces	Average Capacity	Number of Cases	Average Capacity
13	73	1286	223	1358
14	48	1293	275	1378
15	49	1336	326	1402
16	41	1332	312	1422
17-18	42	1309	311	1455
19-21	42	1339	100	1483

It should be noted that the measures of intelligence used in the studies mentioned above have mainly to do with educational or learning capacity which undoubtedly reaches its peak of efficiency at or about 14 or 15 years of age. It is our belief that this maturing of the power of learning capacity does not by any means signify the ripening of all the mental powers and that the brain growth occurring after this age is significant and important as subserving the development of mental traits which the psychometric yardstick is too short to measure. From common sense experience both in self-observation and in our knowledge of others we recognize that there are most important changes in temperamental stability, in capacity for sound judgment, in general adaptability to life and its problems,

which differentiate the callow youth from the mature man, and which continue to develop from pubescence onwards. Yet this increase in planning capacity, this lessened subservience to authority and to suggestion, this temperamental stability and this greater reasoning ability regarding people and their passions and, in short, capacity for better all round adjustment, are apparently attributed by some psychologists entirely to the multiplication of experiences, or to the person's greater familiarity with life's situations, and not to that natural increase of power to deal with situations in general which we may regard as denoting a growth in intelligence. These psychologists are quite ready to accept as evidence of increase of intelligence the greater ability to memorize digits, to acquire a vocabulary, to deal with mathematical problems, or acquire common knowledge, and yet would deny that the greater ability to manage ourselves and our affairs with ordinary prudence and to judge of men and respond judiciously to their passions is any evidence of a growth in intelligence. Because we have not as yet achieved success in measuring all aspects of intelligence is no reason why we should not consider those that remain unmeasured of equal importance to learning capacity as examined by the tests of the kind we have mentioned.

Chapter XI

BRAIN CAPACITY IN RACE AND SEX

Having reviewed the lines of evidence that point towards the importance of brain growth in the individual and the race, we may inquire as to the facts of its continuance beyond 15 years, the period that psychological investigation has established as the probable limit of learning capacity development. If we are now persuaded that there can be no growth in intelligence in the individual without a physical basis in brain growth, and that the individual greatly increases his general adaptability to life's situations in the period immediately following pubescence then a corresponding increase in brain growth should be demonstrable at this period. The importance of this demonstration is all the greater because the inference has been drawn from the phenomena of physical growth[1] that the limits of bodily and mental maturity or "whatever it is we are measuring" are reached in early adolescence.

The facts of brain growth, however, do not by any means indicate any early cessation of development—at least in males. Berry and Porteus measured two large

[1] Whipple in his retiring address as president of the Psychological Section of The American Association for the Advancement of Science 1922 says—"We know that the organism arrives at approximate maturity of growth in stature and in many other physical traits in early adolescence; the fact that our test scores indicate the maturing at the same time of whatever we are measuring . . . like the fact that regardless of chronological age the correlation between stature and mental age is high, may very well indicate that our tests are also measuring an intrinsic capacity which matures according to laws of its own and with relatively little influence from the environment." School & Society, p. 297, June 2, 1923

groups of males of two social grades. The first consisted of 4177 boys attending the primary schools. Most of them lived in a city environment and may be considered of average social grade. From 6 to 13 years the brain growth is steady and shows no evidence of any diminution at the end of the series. The second group consisted of 2104 preparatory college boys and University students. Judging by the averages—and the numbers of cases in these age groups were satisfactory, the smallest consisting of 111 cases—brain growth is particularly rapid from 13 to 18 years of age, the increase being no less than 104 c. c. In other words the individual of this social grade increases his brain capacity as much in the five years of post-pubescent development as he does in the six years prior to puberty. As our numbers of individuals above 19 years were few we pooled their measurements and found that they had a definitely larger capacity that the 18-year-olds, pointing to a cessation in measurable brain development at some point between 20 and 30 years of age. As nature always seems to lay her foundations in physical growth in such a way that the maximum of structural development somewhat precedes maturity in functioning, these facts would indicate that mental maturity is reached somewhat after this point of cessation of measurable growth. Kaes is one investigator who believed that an important growth in association fibres in certain layers of the cortex begins in the civilized races at 18 years of age and may continue right into the third decade of life. Thus it is quite possible that there is a growth or development in the brain which is not indicated by outside measurements of the head. The increase in number of association fibres and their myelination may be easily compensated for by a decrease in the relative amount of neuroglia or non-nervous tissue. In other words, the brain may continue to develop even after the head has ceased to enlarge. If, as we hope to do,

we show a connexion between brain capacity differences in the races and their mental attributes, we may first be called upon to show that the differences in male and female brain growth have a similar significance.

The facts of brain growth may have application not only to the question of the age of maturity but may also provide some interesting data on this question of sex differences. Berry and Porteus measured a group of females of equivalent social grade consisting of preparatory school girls and University students. They therefore formed a good group for comparison with the males. Taking the figures from 9 to 13 years we find that the median capacity for boys is consistently from 50 to 60 c. c. above that of girls. Brain growth in the female parallels that of the male during these years with some tendency for girls to approach more nearly to the boys' median at 12 years of age, a period when in weight and height the girl tends to exceed the boy. It is possible that we may ascribe this lesser female brain capacity in other years to the lessened general bodily size of the girl. But unfortunately for the advocates of sex equality, from 14 years onward the boys steadily increase their superiority so that from an advantage of 62 c. c. at 14 years of age it is increased to 128 c. c. at maturity. This advantage in males is due not to any remarkable spurt in their development but simply to a retardation of brain growth in the female. From 14 years to maturity the girls' average increase is only 43 c. c. while that for males for the same period is no less than 104 c. c. This comparative plateau in female development from 15 years onward is illustrated by the flattening in the female curve in Figure 7. The growth in brain capacity in females after fifteen years of age is 4.7 per cent of their ultimate adult capacity while that of males for the same period is 8.4 per cent of their ultimate brain size. In other words, at 15 years of

age the female is relatively more mature than the male, but her rate of brain growth is slowing down.

Besides making a comparison between male and female brain growth, Figure 7 also shows the relative capacities of a group of socially inefficient people as well as a number of blind in whom growth has been hindered by sense deprivation. The Australian aboriginals may be taken as representing a group who have lacked the stimulus of rac-

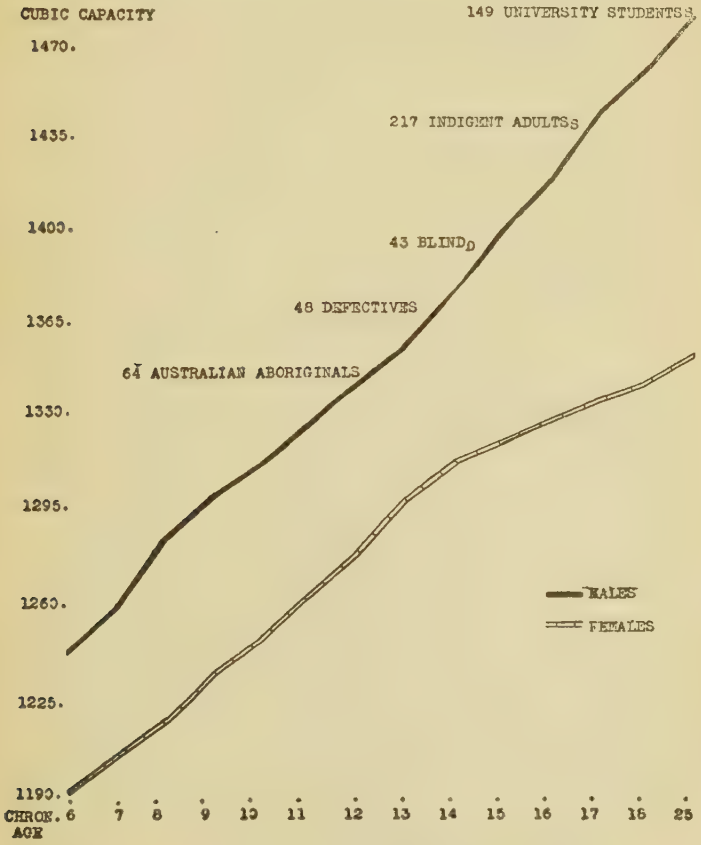


FIGURE 7
MALE AND FEMALE BRAIN GROWTH

ial competition. The socially inefficient may be described as those for whom their environment was too complex, the Australians as those whose environment was too simplified, while the blind represent another kind of imperfect adaptation, in each case there being an inferior brain development.

Returning to the subject of sex differences, we may observe that all the evidence that has been collected with regard to sex differences appears to prove that the differentiation in male and female post-pubescent brain growth is not related to differences in learning capacity.[2] There is almost general agreement that females are equal if not superior to males in this respect. Burt and Moore, two very careful investigators, state the position as follows—"Feminine superiority is a constant phenomenon in memory tests of every kind. It matters little what the age or the training of the subjects may be. Hence it is one of the best attested sex differences and one of the most likely to be innate. It doubtless underlies the characteristic so commonly observed by teachers, viz., that girls and women 'assimilate' so much more rapidly than boys or men."

[2] It has been suggested that a possible explanation of the male advantage is mainly due to an increase in head size and not in brain size, the difference in measurements being the result of the growth of the sinuses and also the increased musculature on the head of the male. The former would tend to increase the maximum length of the head somewhat, and the growth of the temporal muscle would increase the maximum breadth. However, it can be shown that much of the male increased capacity is due to growth in head height during this period and head height is comparatively unaffected by these factors. There is a plateau in the increase of head height in females from 15 years, with hardly any measurable growth from 14 to 18 years, while in males there is a steady increment throughout this period. The increment of growth from 15 years in this measurement is 4 mm. for males and 1.24 mm. for females. Head length appears to be the only measurement disproportionately affected by the typically masculine growth. Hence a comparatively small amount of the masculine advantage in post-pubescent brain growth is due to the above mentioned factors.

Nor did these investigators find that sex differences were more apparent when higher or more complex processes of reasoning were studied. These findings receive ample confirmation from every-day observation. Women take equal rank with men in college class lists and show no inferiority of intellectual power whenever they enter into competition with men.

But it would be an extremely unwise assumption to make that either the differences in brain development between puberty and maturity or the differences in post-pubertal brain development in males and females mean nothing, even though no significant increases in learning capacity can be demonstrated between adults and adolescents nor between the sexes. It would rather appear to show that this brain growth is connected not with learning capacity but with the maturing of other powers. For a clue to what these powers may be we must appeal to the observed differences in achievement in the sexes. Nobody can deny that there are very important sex differences in general adaptability to life's situations. Women assistants, for example, are as a rule more conscientious than men but they display much less initiative and ambition. They are very ready to submit to authority and are less resentful of dictation. This submissiveness is a manifestation of their greater suggestibility. Their lack of initiative is explained by female apologists as being due entirely to an attitude that is enforced on women by convention and public opinion, the penalties for feminine independence of attitude being heavy. It is extremely doubtful, however, that this adequately explains why women's achievement falls so far short of men's in fields of activity where independence and self assertion would be welcomed and not condemned. There is nothing unwomanly in the display of initiative and independence in science or art or business, however displeasing it might

be in personal relations. We must not forget also that it is to woman-made conventions that women are most subservient.

The usual answer to any comparison of achievement in the sexes is to point to the fact that for centuries women's opportunities have been more limited than men's. But it is ridiculous to pretend that in these days of co-education and feminine independence each female aspirant is in some way or other dragging round behind her the load of lost opportunities of past generations. This is just as absurd as to assume—as some do—that woman's inferior position for centuries accounts for an inherited inferiority, as if each woman is not the daughter of her father as well as of her mother. The inferior position of the Japanese has not prevented this nation in a short three quarters of a century from bridging the gap between herself and the Western nations. Surely no one would argue that the position of women as compared with men seventy years ago was any the more inferior relatively speaking than the position of the Japanese compared with other nations. As a matter of fact one generation of independence and co-education should have brought the achievement of the sexes nearer to an equality if it were not for some real inferiority in adaptability.

Among the other factors preventing this equality of achievement in the sexes is the fact of woman's greater affectability. Feminine charm is in part undoubtedly due to the fact that as far as emotional tone and expression goes a woman is never wholly grown up. Along with a maturity of insight which keeps her alive to the finer shades of truth and beauty to which the grosser sex is often insensible, she displays a softness of feeling, an emotional sensitivity which is reminiscent always of youth. Light of draught and expansive to every air that blows, a woman's mind moves swiftly when man's more burden-

some craft is becalmed. But this very buoyancy may prove to be, in the open sea, a source of danger. The knowledge of her greater affectability tends to make the ordinary woman afraid to entrust herself to the unknown, and to shun the situations where sudden decisions may at any time be called for. Hence with very often equal or superior ability to man's, she fails to capitalize her powers and often accepts the direction of one who may be intellectually her inferior, though temperamentally her master.

Herein too, is the explanation of woman's lesser physical hardihood and courage. Provided the situation is either inescapable or has already been previously experienced, then woman's capacity for bearing pain is just as great as man's. But it is the hazard of the unknown that she fears and avoids and her ready imagination adds to her real terrors many dangers that do not threaten. So her constant dread of failure predisposes her to fail. Man is not only less imaginative, envisages consequences of failure less, but also inhibits the natural emotional response much better. Women's greater emotional instability confers an increased tendency to certain forms of mental affections characterized by great loss of normal nervous inhibition. Chorea, hysteria, acute mania are more commonly met with in women than in men. But it is interesting to note that along with this increased susceptibility goes a greater tendency to recovery in females. It is evident that just as slighter strains are sufficient to bring about the mental imbalance so, with the removal of the original cause, equilibrium is the more easily restored.

Individually emotional and facile, in the mass women are stable and conservative. This is an expression of the retrovert attitude in the sense that we have previously described it. Usage, convention, tradition have immensely greater power over them than they have over the ante-

vert male. There is no creed too outworn, no faith so long forgotten, but it can be revivified by women's devotion. The quality of faithfulness anchors them steadily amid the flux and turmoil of changing opinion so that in politics, in religion, in morals, in business, their cue is to stand fast. This retrovert attitude forms a fine counterbalance to their individual suggestibility and emotionality. Thus they gain as a group stability of character because of their unwillingness to step outside the bounds of the accustomed. Hence woman is rarely converted in the mass to any new movement. The appeal must be personal and individual and so she tends to give her loyalty to leaders, not causes. Men may be swayed and governed in the mass, but women make no new forward movement because by the method of individual conversion the movement is already old before the women are all persuaded. Even such an advance as woman's suffrage was gained not by any concerted feminine action, but by the efforts of the vocal and vociferous minority of their sex. Hence we see the extraordinary spectacle of men's conversion to women's rights before the majority of women were themselves persuaded. In one sense there is no women's vote any more than there is a men's vote since women rarely tend, because of their sex, to align themselves on one or the other side of any public question.

After all, the question of sex differences should be stated as such, and not as a question of superiority or its reverse. It is well to recognize however, that there are, and probably always will be, differences in achievement and that the possession of certain definite personality traits in different degrees underlies these differences. The position has been excellently summarized by Jastrow[3] who says, "Combine in varied measure the tangential disposition, the zest of the unfamiliar and of its conquest, the

[3] Jastrow, Joseph—Character and Temperament.

shrewdness of wit, the trend toward organization, the objective interest, the mastery of control—all congenial and reenforcing qualities; apply them to different ends and you proceed measurably in the comprehension of masculine superiority as an executive, as a devotee of science, as a philosopher."

It may be noted in passing that most of these characteristics have been shown to be more typical of the Japanese than the Chinese temperament and justify in no small measure our statement that the latter exhibit a more nearly feminine makeup.

But if to any degree a difference in brain capacity underlies the temperamental differences between the sexes, it should be demonstrable with regard to groups of the same sex who also display these differences in temperament. In other words do the more active, resourceful, adventuresome, antevert males exceed in average brain capacity the more passive, suggestible, submissive types? Unfortunately the evidence on this point is scanty and again we must turn to studies on the feebleminded, since no one appears to consider the normal children worth studying in this respect.

In an investigation of the brain capacities of 464 inmates of the Training School at Vineland, Porteus first divided the cases on the basis of their conduct. This was done merely to differentiate the psychopathic from the well-adjusted types. In studying the behavior of the cases, 20 per cent were found to differ from the rest in being unruly, disobedient, resentful to authority, active, cunning and sly and in having other delinquent tendencies. They were, however, somewhat different from the psychopathic, who also numbered 20 per cent. No physical differences between the delinquent types and the well-adjusted were anticipated, but marked differences were found. The group with the restless active temperaments exceeded

in brain capacity the stable well-adjusted types of the same mental level by 65 cubic centimeters, the equivalent of four years of growth at the chronological point of comparison. Taking those of higher mental capacity—viz., at dull normal levels—the well-adjusted group were three years below those with more active temperaments but of identical mental age. Further than this it was found that the activity of temperament had a physical basis not only in brain growth but in other respects as well. "Both as regards the largest number of children reaching above the normal median in physical and psycho-physical measurements, the smallest number below the median, and also the extent of the deficiency in bodily strength as compared with physical development, the delinquents stand nearest the normal standards."[4] Both in strength of grip and vital capacity the advantage of the delinquent type cases was extremely marked. All the evidence from this source at least seems to point to the close relation between physical and temperamental type.

Exactly the same tendencies were observable in the group of girls studied. There again the girls of the active, resolute, aggressive type had a distinct physical advantage over the suggestible passive well-adjusted types.

A study of brain growth in the blind affords almost the only additional data on this question but it also points to the probability that post-pubertal brain growth is the physical basis of temperamental differences and of the hitherto unmeasured aspects of intelligence. Sense deprivation of any kind naturally results in a diminished development of the brain. A large portion of the brain—the occipital portion—subserves the sense of sight. Adjacent to the visuosensory area, that is to say the area of visual perception, is another portion of the brain termed the visuo-psychic area and which has to do with the interpretation of

[4] Porteus, S. D.—"Studies in Mental Deviations."

visual sensations. Great numbers of association fibres are developed to link up these areas with other parts of the brain. The earlier educative processes of "seeing" persons are almost entirely taken up with the organizing of neural pathways or patterns along these lines of connection. The reading and writing centres must of course be linked up with the visual centres. In the congenitally blind the development of the visual areas lies in abeyance and as such a large part of ordinary experience is visual, many interconnections also fail to develop. Education, if it is given, must proceed by building up other neural association systems. Hence it is to be expected that there will be a somewhat diminished brain capacity. This deficiency on the average amounts to the equivalent of about 3 years of normal development in blind girls and 2 years of brain growth in boys. But a further analysis of the figures showed that it was in post-pubescent brain development that the girls were most deficient. At 11 years of age there is far less difference (20 c. c.) between the boys' average and the girls'. Up to this age blindness has apparently had the effect of ironing out the normal sex differences; but at 18 years of age the superiority of the males is quite equal to that observed in normals. In other words brain growth in the male blind more nearly parallels that of the seeing than is the case with females. This may easily be the result of fuller education and life experience. Every attempt is made to encourage activity of temperament in the boys. They are expected to find their way unguided about the streets, to seek a situation and thus attain independence and self-support. Social dependency is, however, forced upon the girl so that she carries not only the burden of blindness but of multiplied sex restrictions as well. Her natural passivity of temperament is therefore reenforced in many ways and her lessened brain growth reflects this restriction.

All the lines of evidence that we have been able to gather—from the comparison of defectives, of primitive races, of prehistoric men, of the sexes—seem to prove the importance in the mass of brain capacity and we have further endeavoured to prove that these differences are not adequately accounted for by differences in learning capacity but rather in general adaptability, in which temperamental traits play an important part. In the first section we made a survey of the history of immigrant groups in Ha-

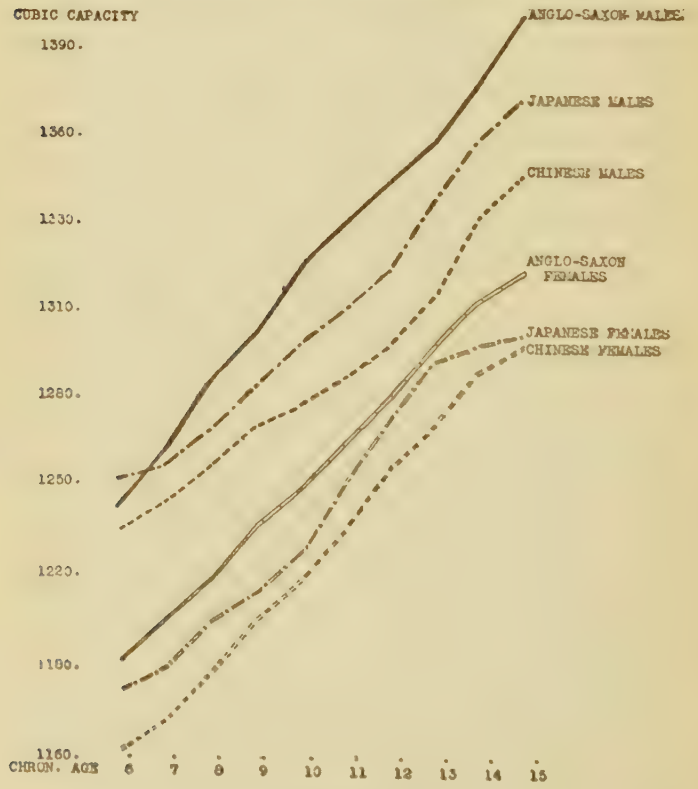


FIGURE 8
BRAIN GROWTH IN RACE AND SEX (Legend)

waii, and from these observations set forth the temperamental differences which experience had shown existed in these groups. As we have shown that the Japanese have proved themselves to be more generally adaptable then we should expect to find this superiority also reflected in advantages of brain development.

The subjects of an investigation on this point were children in attendance in the public schools of Honolulu. Head measurements were taken of about 4000 children. This work was done by the one observer, thus minimizing the chances of errors due to different technique. All of the children attending three large schools were measured and all the boys in a fourth. The total number of Chinese measured was 1027, and of Japanese 1307, and they ranged from 6 to 15 years of age. The numbers of children in the age groups were too small to permit comparisons of the averages of other races.

Reference to Tables 12 and 13 and Figure 8 will show that at each age from 6 years to 15 years the average brain capacity of Japanese boys exceeded that of Chinese boys. Moreover there was a tendency of the Japanese to increase their advantage after ten years of age. The Japanese average is below that of white Australian boys of better social grade at every age from 7 to 15 years, the advantage of the latter also tending to increase with age. But a comparison of the brain capacities of the Japanese with white boys of average social grade showed that the superiority lay with the former. The Chinese boys were inferior to both groups of white boys but the comparison of both Oriental races with the lower grade whites could not be carried beyond 13 years, as no further figures were available.

We have already mentioned the fact that brain growth is to a certain degree dependent upon general body size. The taller the race the larger the brain capacity tends to be.

TABLE 12—HEAD FORM AND BRAIN CAPACITY OF 1027 CHINESE BOYS AND GIRLS IN THE PUBLIC SCHOOLS OF HAWAII

Chronological Age	Number of Cases	Mean of Length	Standard Deviation of Length	Probable Error	Mean of Breadth	Standard Deviation of Breadth	Probable Error	Mean of Height	Standard Deviation of Height	Probable Error	Cubic Capacity of Brain as Calculated from Length Breadth and Height	
CHINESE BOYS												
6 yrs.	36	173.4	6.46	.51	146	4.44	.35	123.7	3.4	.27	1235	c. c.
7	78	173.3	8.16	.44	146.2	5.35	.29	124	3.39	.18	1240	
8	72	175	5.68	.32	147.3	5.05	.28	124.8	3.54	.20	1262	
9	68	174.8	6.23	.36	147.7	4.18	.24	125.5	4.31	.25	1271	
10	59	175.9	8.02	.50	148.3	5.26	.33	125.5	4.02	.25	1279	
11	62	176.5	7.05	.43	148.3	4.9	.30	126	4.05	.25	1285	
12	55	178.6	7.65	.49	148.6	5.59	.36	126	4.29	.28	1299	
13	56	180.25	6.96	.44	148.75	5.14	.33	127.3	4.2	.27	1309	
14	41	180.36	5.94	.44	150.5	5.32	.40	128	4.04	.30	1336	
15	29	183.27	7.36	.65	150.3	5.01	.44	129.4	4.04	.36	1352	
CHINESE GIRLS												
6 yrs.	29	167.6	5.14	.45	142.5	4.76	.42	120.3	3.84	.34	1161	c. c.
7	54	167.46	5.15	.33	142.5	5.35	.35	121	4.2	.27	1171	
8	68	168.8	5.82	.34	144.16	5.93	.34	122.1	4.34	.25	1191	
9	48	171.69	6.93	.48	142.8	5.74	.395	123	4.26	.29	1204	
10	63	171.8	5.7	.34	144.4	5.48	.33	125	4.56	.27	1225	
11	63	173	7.12	.43	144.6	5.28	.32	123.6	3.46	.21	1231	
12	46	174.8	4.88	.34	145.1	5.41	.38	125.5	3.7	.26	1254	
13	45	177	6.32	.45	147	4.97	.35	126.9	3.99	.28	1286	
14	31	177.7	6.84	.58	146.74	3.86	.33	125.7	4.45	.38	1275	
15	24	180.2	6.43	.62	148.6	6.12	.59	127.4	3.6	.35	1310	

TABLE 13—HEAD FORM AND BRAIN CAPACITY OF 1307 JAPANESE BOYS AND GIRLS IN THE PUBLIC SCHOOLS OF HAWAII

Chronological Age	Number of Cases	Mean of Length	Standard Deviation of Length	Probable Error	Mean of Breadth	Standard Deviation of Breadth	Probable Error	Mean of Height	Standard Deviation of Height	Probable Error	Cubic Capacity of Brain as Calculated fromLength Breadth and Height
JAPANESE BOYS											
6 yrs.	34	169.7	6.1	.50	150.	5.2	.42	125.1	3.99	.33	1251 c. c.
7	58	169.2	4.9	.31	150.5	4.48	.28	126.	2.89	.18	1259
8	74	172.	5.12	.28	149.3	5.51	.30	125.9	4.14	.23	1265
9	92	173.	5.33	.26	150.3	5.5	.27	126.6	3.7	.18	1286
10	100	174.	6.26	.30	151.	5.67	.27	127.5	3.83	.18	1302
11	95	174.8	5.66	.28	150.8	5.25	.26	127.8	3.59	.18	1311
12	96	176.6	6.49	.32	151.67	5.08	.25	128.	3.93	.19	1321
13	75	178.7	6.55	.36	151.9	4.9	.27	129.	4.7	.27	1341
14	75	178.6	6.31	.35	153.	5.16	.28	129.6	4.06	.22	1356
15	49	180.9	6.00	.42	153.7	4.95	.34	131.	3.55	.24	1382
JAPANESE GIRLS											
6 yrs.	33	166.3	3.87	.32	145.1	4.44	.37	120.9	3.7	.31	1177 c. c.
7	50	168.9	4.59	.31	144.	6.02	.40	122.8	3.07	.20	1194
8	63	168.5	5.62	.34	144.7	4.22	.25	123.1	3.22	.19	1201
9	75	170.3	5.53	.30	145.4	4.45	.24	124.	3.69	.20	1219
10	75	170.44	5.64	.31	145.2	4.56	.25	124.3	3.45	.19	1225
11	60	170.5	6.49	.40	147.6	4.30	.26	125.1	2.99	.18	1245
12	83	175.5	6.3	.33	148.5	5.13	.27	125.4	4.5	.23	1285
13	53	176.	5.2	.34	148.6	4.71	.31	126.7	3.39	.22	1292
14	40	176.67	5.98	.45	150.1	5.39	.41	126.7	3.56	.27	1302
15	27	176.15	4.39	.40	149.9	5.54	.51	126.4	4.48	.41	1302

Much has been made of this connection between brain and body size when male and female differences in brain size are discussed. The only figures available to us with regard to the bodily size of Japanese and Chinese are some tables based on data collected by the Hawaiian Board of Health. These show that Japanese boys at 8, 9, 10, 11, 13, 15 and 16 years are shorter than Chinese boys, whilst Chinese girls have the advantage over Japanese girls at every age. In other words the advantage as regards bodily stature is distinctly with the Chinese, so that we should expect that in brain capacity the Chinese also would have the advantage. This makes the Japanese superiority in brain growth all the more remarkable. In passing we might note that Hawaiian girls are superior in height to any of the other races, including the white, from 9 to 16 years of age, whilst the boys have the advantage from 9 to 13 years. This indicates a physiological acceleration which does not, however, parallel a mental precocity during the whole of this period.

When we compare the brain capacities of the girls we find exactly the same tendencies. The white girls of good social grade are superior to the Japanese girls and in fact this superiority is more marked than in the case of boys. The Chinese girls are inferior in average brain capacity to the Japanese girls at every age from 6 to 15 years but there is less difference between girls of the two Oriental races than between boys. If the advantage had been a fluctuating one, appearing at one age and not at another, we might have attributed it to chance, but the fact that Japanese superiority is apparent for both girls and boys and at every age seems to prove that it is a valid difference.

The Japanese superiority is due to the fact that in two diameters of the head—maximum breadth and head height —they out-measure the Chinese at every age. They are,

TYPICAL JAPANESE BOYS

(*Front View*)

TYPICAL 9, 12 and 14 YEAR JAPANESE BOYS
APPROXIMATING THE AVERAGE
RACIAL HEAD FORM

however, shorter headed than the Chinese. These conditions affect the cranial indices as the ratios of these various diameters are called. The Japanese with their short wide heads are more brachycephalic than the Chinese. With girls the same tendencies are apparent but not so marked. The variability of the Chinese boys as shown by the size of the standard deviations is greater than that of the Japanese in length and height and in the case of girls it is greater in all their diameters. This greater variability is usually taken to indicate a lesser purity of race. The averages of the diametral measurements are given in Tables 12 and 13.

As regards sex differences, both Chinese and Japanese males exceed females in brain capacity. The Japanese girls more nearly approach the boys' average at 12 years, the Chinese at 13 years. This may be taken as an evidence of a slight acceleration of growth in girls in this period. White girls also most nearly approach the male average at 12 years. Hence despite the environmental and racial differences the same general laws of growth as regards the sexes appear to apply.

We may now sum up these findings by saying that the Japanese, both boys and girls, have a larger brain capacity than the Chinese at every age from 6 to 15 years; they are shorter headed but broader and higher headed than the Chinese children as a group—their measurements are less variable indicating greater purity of racial origin. The Japanese are inferior to white children of good social grade but exceed in brain capacity white children of a social grade equivalent to their own. The advantage of white girls of good social grade is, however, somewhat more marked than is the case with males.

It would, of course, be unwise to attach too much importance to the Japanese superiority in average brain capacity. There are other things which determine the racial

status or potentialities, such as for instance, the variability. The race with the greater range of variability may tend to produce more individuals of a very superior intelligence and with consequently greater capacity for leadership. On this point we have no direct evidence. Another point in which the evidence is not complete is the relative position of the races at a period later than 15 years. The white race may of course tend to increase its advantage or on the other hand there may be a levelling of inequalities. It is interesting to note, however, that had we known the facts fifty years ago as far as they have been established today, the Japanese superiority of brain size would have been adduced as evidence of the insignificance of such a measurement. But the remarkable progress of this race during that half century has had the effect of providing evidence which points to the opposite conclusion.

In succeeding sections we shall show what mental and temperamental differences between the races can be adduced as related to these differences in brain size.

PART V

MENTALITY OF RACES

Chapter XII

BINET TESTS

Interesting as the demonstration of racial differences in brain growth is, the comparisons are entirely without point unless we can interpret these differences in psychological terms. While we have shown that in the mass there are differences in adaptability between the Japanese, Chinese and Portuguese, it is proper to enquire what individual traits must underlie these mass differences.

We have already referred, in Chapter IX, to the comparative school advancement of the various races. But school progress especially in the primary grades does not always accurately reflect the chances of the individual's after-life success, even in intellectual pursuits where "book learning" plays an important part. This is due, in part, to the fact that this success is so often related to the individual's possession of some specific ability. School progress is not so much a measure of specific abilities as it is a measure of all-roundness. Graduation from an eighth grade means that the individual has reached a certain average in all the more important subjects of the curriculum but this fact gives no key to his possession of outstanding ability in any one or several directions. As a matter of fact there will be, as is well known, a great differentiation in abilities in the members of an eighth grade and the older these individuals become, the more these abilities will tend to be differentiated. Hence the boy with moderate attainments throughout may be entirely outstripped by the boy with, let us say, marked literary ability, but whose attainments in other directions may be less than moderate.

The reason for this unevenness of school attainment lies in the fact that there is no perfect correlation between one mental capacity and another. One of the most interesting results of modern psychological experimentation is the proof that even such a capacity as memory, which was formerly thought of as a single mental function, is itself broken up into a number of abilities which differ in degree with the kind of material to be memorized. Hence a person may have a remarkable ability for remembering historical dates but a wretched memory when it comes to keeping in mind his personal appointments.

Every institution for defectives has had at some time or another some inmates with remarkable memories in certain limited directions. One person will keep in mind the dates of all the more or less trivial happenings in the institution over a long term of years. Another remarkable performance is the matching of the days of the week with correct dates.[1] An individual with this kind of memory can give you almost instantaneously the day of the week that any date fell on for quite a number of years past. Yet this special memory ability seems quite unrelated to good memory in general and cannot be carried over to other material. Years of patient effort have been expended in the vain hope that this memory might be applied to learning spelling or number combinations. Undoubtedly the special interest of the individual conditions this ability somewhat, but this is not the whole explanation of the phenomenon. The ability must be there to begin with or the interest would hardly be aroused. Such cases provide striking proof that such abilities may be independent and isolated.

This failure of ability to "transfer" to other material

[1] One case which fell within our experience was that of a boy eight years of age who could not only give the day of the week that any date fell on but could also recite in detail all the trivial happenings of each day.

is the reason why we do not any longer find "memory training" as such in the school curriculum. Time was, however, when memory was supposedly trained by causing the individual to learn by heart hundreds of lines of poetry or prose. Because the training of memory in one direction does not carry over to other material, so-called memory systems really cannot succeed in giving us a good all-round memory.

Attention, powers of observation, also differ in different fields. The Australian blackfellow has most remarkable skill in tracking men or wild animals, dependent upon wonderful visual interpretative ability. There is some anatomical evidence of a disproportionately large development of the aboriginal's brain in the occipital or visuo-psychic area, so that his ability probably has an inherent physical basis. Yet this keenness of observation and power of attention is not carried over into other apparently similar fields. Reading too, is, in part, a visuo-psychic operation, yet the Australian aboriginal does not find it easy. In a maze test where alertness in observation and memory for direction and general visuo-psychic activity seem to come into play, the Australian aboriginal children fall short of white children's performance.

If then between apparently closely related abilities there is far from perfect correlation, it is not surprising that between dissimilar abilities such as mathematical or literary abilities there is in certain individual cases but little relation. Moreover these specific abilities grow by what they feed on. We like to do most the thing we do best, and so with increasing age there is an increasing differentiation of capacities. In certain occupations there is a demand for well-proportioned abilities, but in others the demand is for some particular talent. Especially is this the case in occupations which call for creative skill. "That one talent which is death to hide" may easily out-

weigh in importance the other nine. And for the exercise of this imaginative scope, this creative skill—the work in the primary grades of school gives little scope so that the genius of after life might be easily overlooked in his early school days.

But quite aside from the effects of this differentiation of scholastic abilities, success in life is not wholly related to school proficiency because there are many temperamental qualities which exert their full influence only after the boy has left school. School is a great leveller. The lazy are stimulated, the over-active inhibited. The child's efforts are dominated by the parents' desires, by the teacher's personality, by the influence of his schoolmates. The task to be done is set and appointed and there is but little call for determination, courage, initiative and resourcefulness, nor do the qualities that are the reverse of these have much opportunity for serious influence. Under ordinary school conditions the pace that must be kept is the average pace, the rate of progress that of the average child. There is neither much call for reserves of intellectual strength nor much chance for temperamental defects to obtrude themselves.

But the competition that faces the youth when he steps from the school room is of a very different nature. Success no longer consists in keeping up with the average. There is need now of courage, persistence, and determination and patient striving with monotonous work that the short well-supervised and varied tasks of the school room did not call for. The extra labour that must be undertaken to lift the individual from the ruck is self-appointed. He is no longer one of a group doing the same thing at the same time in the same way and with the same incentive. The qualities that are now so essential to success are inadequately reflected in the school examinations. It is probable too, that these temperamental or psychosyner-

gic capacities are reaching their full development in adolescence so that they become more highly differentiated just at the period when they are most essential to individual success. Under the spur of ambition and determination the runner is able to call upon reserves of intellectual strength which were not needed while he ran with the pack.

But if school progress is not a reliable indication of future success, we have the verdict of intelligence tests to fall back upon. If, as was at one time thought, these tests really measure innate ability—the raw stuff of intelligence—then the prediction of after-school achievement should be easy. All that would be necessary to do would be to apply the tests, calculate the intelligence quotient, as the relation of test age to life age is called, and the level of achievement in after-life would be indicated. Thus the sheep and the goats, the super-intelligent and the defective, could be divided. Then if we find that some of these prodigies with high I. Q.s become anti-social or fail to live up to their first promise, the tendency is to blame their environment as failing to provide the right opportunities for them. So classes for exceptionally bright children are instituted for the better training of the children who are to be saviours and leaders of the next generation. This training is of course thoroughly justifiable and advisable, but we may be permitted to doubt whether our tests are really adequately to detect genius—whether in fact, some children who deserve our best attention, fail to be distinguished by very high I. Q.s, while others of exceedingly high levels lack other qualities essential to ultimate success.

The question of the validity of mental tests as measures of innate ability is of course of supreme importance when we come to consider their application to the problem of racial differences. If they are really adequate

measures of intelligence in its widest sense, then it should be an easy matter in conditions such as we have described as existing in Hawaii to obtain a conclusive answer as to the reality and nature of differences due to race. However, we must first digress a little into the field of psychological criticism and ask what these tests are, what they purport to measure, and how well they succeed in doing it. Considering the importance of the questions we seek to answer by the use of these tests we must be very careful not to give unthinking acceptance to claims on their behalf. It will be necessary first of all to inquire as to how much they may be relied upon to give us an adequate measure of individual worth before we proceed to examine the racial comparisons that have been made by their aid.

Unfortunately, the most generally accepted tests are not quite adequate for individual evaluation. They cannot even be relied upon to measure justly the social worth of the individual at the lower end of ability, the defective. The highest authorities on feeble-mindedness differ as much as 25 points in their estimation of the intelligence quotients that signify the diagnostic level of mental defect. If such a wide limit as from 50 to 75 I. Q. is required as a division between normality and feeble-mindedness, with how much certainty shall we proceed to select the potential genius?

But even if we exclude from the discussion the question of the diagnosis of genius or feeblemindedness and centre our attention on the use of mental age ratings for predicting ordinary success in life, we are still in doubt as to their value. Even less dependence can be placed on such tests for revealing racial differences in intelligence. Why the mental test has proved disappointing as a predictive or diagnostic measure may be made clear by a brief examination of the nature and constitution of several of the most important test scales.

The most justly famous of these and the one most widely used for racial comparisons, is the Binet-Simon, devised originally to aid in the selection of mentally defective children for the special schools of Paris. The authors wished to find tests which would go outside the field of school experience and test the raw stuff of intelligence. But, as Ballard rightly points out, it is quite impossible to test adequately such ability except as it is embedded in experience. The experience that is most readily drawn upon is, in the case of the child, his school experience. Consequently many of Binet's tests were taken directly from the child's school work. Others less dependent upon direct instruction were at least of the type that becomes familiar to the child in school. Others were dependent more closely upon out-of-school experiences. For these reasons the tests are not suitable for adults, because adults have not by any means enjoyed equal opportunities as regards either schooling or life experience. Further than this the choice of tests also tended to favour a certain type of ability which functions most favourably in the school situation but not nearly so favourably in life situations in general. The psychologists naturally took the path of least resistance and selected for measurement the capacities that were most easily measured. So as an index of memory development we find such tests as the ability to repeat digits in order and to remember sentences. It is perfectly proper to examine rote memory in this way, but we must beware of giving disproportionate importance to this ability since rapid verbatim reproduction of sentences or digits is not called for in everyday situations. Then there is another class of test very fully represented in the scale, tests which are dependent on language facility, such as the giving of 60 words in three minutes, ability to define common objects, or to comprehend difficult questions. From these examples of the test questions it

will be seen that they favour unduly the child who is of the verbal type—one to whom verbal expression is easy and who memorizes readily all kinds of discrete material. The more thoughtful introvert type to whom expression does not come readily might easily be out-measured by the glib, talkative, "bright" child. In other words the tests have a distinct literary bias.

The introduction of the Binet-Simon tests to America is very largely due to the work of Goddard at Vineland, who had the tests translated and was the first to give them an extensive trial, both at the Training School and in the public schools of Vineland. For some time the Goddard revision was most widely used both here and abroad. Except for Goddard's pioneer work it is doubtful whether the tests would have had a fraction of their present vogue. But the most generally known revision is the Stanford-Binet, a revision which we owe to the efforts of Terman. Yet even this later and improved form of the Binet scale has not succeeded in getting away from an over-literary trend. Tests largely dependent upon previous school training make up about thirty per cent of the total included in the Stanford series, and another twenty per cent have to do with the testing of primary or rote memory. In about half the tests, facility in the use of language either as regards range of vocabulary or comprehension and descriptive and defining power is the main factor in success. Practical ability enters into less than one fifth of the tests, yet this is the determining factor in success in skilled and semi-skilled occupations to which so many individuals turn for livelihood. On the whole the Stanford-Binet is not well-balanced as regards tests of practical judgment.

The ability to use language is of course a distinctively human characteristic, and ability for abstract thinking is undoubtedly the mark of a high level of intelligence. But

the ability to use tools is also distinctively human. The sculptor or the artist who can best express his thought or emotions in paint or marble will rank equally well with the poet or philosopher in the roll of genius. Language is the common medium of ideas but not the only medium. It is also the medium of instruction, so that the emphasis on language facility in the Stanford-Binet will help to account for its high correlation with school proficiency. If the testing of intelligence were confined to the testing of children of super-intelligence, language tests should then have all the weight which Terman would assign to them in the scale. But the man at average levels of intelligence does not live in a world of abstract thought. His world is the world of business, of machines, of industrial operations, and he manages to get along with very limited facility of expression and very few abstract ideas. Yet such people are very necessary to the progress of the world at large; for practical judgment, the ability to deal with things instead of words, is most important in this age of invention and industry. A shipload of poets and philosophers cast upon a desert island would inevitably starve. The world was not made habitable by high thinking, whether poetical or philosophical, but by practical commonsense achievement. The writers, as the most audible section of mankind, have joined in acclaiming the literary genius, but have had little praise for the many inventors that have made life liveable and who give us time for philosophy. The writers too have set the fashion of decrying this material age as if the man who invents a cotton spinning device is somehow less worthy of honour than the one who spends his time in spinning some transcendental web of thought that floats midway between earth and heaven and touches neither. Some monuments are worth erecting to the common man and the common man's inventions. So too, when it comes to our testing program,

we must remember that the average man lives on the ground and we must test and evaluate his ability on his own level. Just as the schools are too scholastic, being admirably fitted to turn out teachers and professors, so we must beware of the scholastic touch in our testing program or we shall fall into the error of measuring the girth of the tree at the level of its topmost branches and not at the ground.

As a matter of fact the mental testing program must alter at different levels of intelligence. There is very little specialization of abilities before twelve years of age, so that the general level of intelligence is rather readily determined before that period. In other words the situations to which the child must adjust himself are relatively limited so that the selection of tests which will reflect his adaptability is simple. For instance, rote memory is developing rather rapidly before this age and it is a simple matter to gauge this development. The early period of life is one in which the child is learning rapidly a number of items of common information and is acquiring a stock of common abilities. The days of the week or the months of the year, the names of coins, simple number operations, weights of objects, facility in language expression are the things which are naturally falling within the experience of every child and slowness to become familiar with these is good evidence of an unresponsive or inactive brain. Life in the early years of childhood demands an all-round adjustment, and there is little need or opportunity for special aptitudes to develop. The measurement of intelligence will naturally at these ages be a measure of general adaptability to relatively simple situations and hence can be rather reliably estimated. Because of the conditions of everyday life for even the common man, a certain basic level of this all-round ability, of this scholastic trainability, is necessary. At one time the lowest Binet

level at which an individual could supposedly get along in society was placed at twelve years. It was based on the fact that this was about the upper level of Binet age of inmates of institutions for defectives. But this opinion was rudely shaken by the army examinations which proved that there were many millions of people below this Binet age who were getting along perfectly well in the community; to dub them feebleminded or morons or even subnormal would rob the terms of all practical social significance. It is evident that these individuals possessed some unmeasured intellectual or temperamental traits which marked them off from the defectives of equal test age who must be taken care of in institutions. Notwithstanding this fact we are tolerably safe in saying that even moderate success in life cannot be achieved by individuals with a basic level of all-round ability of less than eleven or twelve years of age. Such people may be socially sufficient—that is to say they will float in the community—but they must by no means be overloaded with responsibility or they may sink. Left to find their own levels they will get along, but will be found, both they and probably their children, filling the ranks of the army of the unskilled. Nevertheless we must not call them morons.

Given this basic level of all-round ability, thenceforward success is dependent upon development in two directions. As the individual emerges from childhood into adolescence, he begins to meet with situations which call for marked abilities in limited fields; but what is more essential at this age is an all-round development of temperamental, or as we have called them, psychosynergic traits.

In order to have an adequate testing program we must recognize these three periods of individual development—the early period of all-round adjustment, the period of

adolescence in which temperamental differences have most influence on adjustment, and, thirdly, the adult period when special abilities have most weight in determining success. We do not mean that the individual changes so greatly, but that the situations in which he functions vary. As a matter of fact both temperamental differences and special abilities are apparent in childhood, but they have a lesser influence on adjustment than they exert at a later period.

Some psychologists who are interested in the devising of tests have failed to realize the changed situation and have gone on with the tests that were efficacious up to the twelve year level, extending them to the higher levels of adolescent or adult intelligence, with very unsatisfactory results.

As an example, we may point to the Stanford-Binet tests for the upper years. Terman has included among these one very excellent test of a special ability, the vocabulary test. This assuredly deserves a place in a mental test scale. The English speaking child of ten years who knows the meaning of "rule" but cannot define the word "scorch" is extremely slow in becoming familiar with everyday words and is probably dull. On the other hand the failure at eighteen years of age to define "achromatic" or "retroactive" proves nothing with regard to intelligence but merely that there have been gaps in the individual's educational experience. Furthermore the child who at ten years knows what a "dungeon" is and cannot repeat 4 digits backwards, reveals a significant unevenness of attainments; but the ability at sixteen years to define correctly forty words of Terman's vocabulary test when associated with a failure to repeat six digits backwards betrays an entirely *insignificant* unevenness of development. Reversing the conditions we may say that an individual of sixteen years of age with a twelve-year vo-

cabulary will have the range of occupations in which he can achieve success decidedly restricted, but this would not be true if he had a twelve-year rote memory and a sixteen year vocabulary. Our contention is not that Terman gives too much prominence to the testing of vocabulary and language ability, but rather not enough. We should like to see a special scale constructed for this purpose, for it is our contention that a person with a superior range of ideas as indicated by an extensive vocabulary is very intelligent whether or not he can repeat seven digits or solve some arithmetical puzzle—provided always that he has that basic level of all-round ability that we placed at twelve years, and provided also that he has sufficient temperamental stability to enable him to adjust adequately to the ordinary relations of life. All this would be equally true of a person with pronounced mathematical ability and a somewhat defective vocabulary. Hence our present scales of "general ability" should be used up to twelve years, but thereafter the testing program should branch out into a series of independently scored tests of specific abilities—mathematical, literary, artistic, technical and mechanical and the like. In our opinion the statement of adult or adolescent intelligence in terms of all-round ability may be good as far as it goes, but still may be quite inadequate as the total measure of a man.

How much beside the point the scoring system of the Binet in its upper levels is may be proved by carrying its principles to a *reductio ad absurdum.* In most years of the scale Terman has included six tests for each age period. For example, at fourteen years there are six tests to be passed for each of which the subject obtains four months credit in his test-age score. But there is no earthly reason why six should be chosen except that six divides equally into twenty-four months, the period between

twelve and fourteen years that these tests cover. There might just as easily be sixty. Instead of three arithmetical problems at fourteen years we could have twenty. Instead of one question such as "What are the chief differences between the president of a republic and a king?" we might find ten similar questions on common information. In the Thorndike test for high-school graduates we find hundreds of such test questions. Now if we had sixty tests for superior intelligence and allotted, say, two-fifths of a month for each success and made eighteen years the level of superior intelligence, then if our tests were sufficiently varied we would probably prove that there are no superior adults; for some at least of the tests would fall outside the range of each person's interest or knowledge. The only superior adults on earth would be the schoolmasters and psychologists. Again we should like to reiterate our contention that the statement of adult intelligence in terms of all-round ability means the setting up of absolutely artificial and arbitrary standards.

These principles, it should be noted, are either stated or implied by Terman. With regard to the scoring system of the Binet in its upper levels, there is a tacit admission of its inadequacy in the fact that the method is changed when we come to what Terman has called average and superior adult levels. Here there are still six tests to cover a two-year period in mental age, but instead of allowing four months credit for each test success, he allows five months credit in the sixteen-year tests and six months credit in the eighteen-year tests. In short the scoring is no longer cumulative. Our proposal is to break up the tests for these years into separate scales and to adjust the scoring in such a way that the individuals may get superior adult standing by success in any one of these scales.

Generally speaking, our view-point agrees very closely

with Terman's when he says "There is no type of test which will measure intelligence equally well at all levels." . . . "He (Binet) recognizes that with increasing maturity, intelligence becomes something different" . . "It is clear why no intelligence scale made up of a battery of serial tests, each intended to give a linear measure of some supposedly mental 'function' has ever worked successfully over a very wide range." Perhaps it would be more correct to say, not that intelligence becomes something different with maturity, but that the situation in which it operates becomes enlarged, so that new prominence and importance are given to capacities which at a lower level play a subordinate part.

In pointing out that the Binet finds its greatest usefulness in predicting school proficiency and in discussing the predictive value of school progress, we do not mean to imply that only a very small relation exists between ability to deal with tests and to "get on" in life. The correlation is however, probably below .5; which means that other factors taken into conjunction are probably more important than measured intelligence, especially in grades of occupation below the professional. The placing of the correlation at this figure is, of course, merely assumption; but at least we know that intelligence as measured by the best available tests does not correlate any higher than .6 with college success. This means that while intelligence is the most important single factor involved, there are others which together are very important. These are interest in study, ambition, and the like, which at present we have no means of measuring. If, therefore, measured intelligence has only this degree of relationship in such a field as college success, where the test situation so nearly resembles the scholastic situation in general, how unlikely it is that measured intelligence will have as high a correla-

tion with life success, when the situations to be met and dealt with provide such an immense variety and scope as compared with the ones that are provided in the mental test examination.

Chapter XIII

ARMY TESTS

Test scales other than the Binet which have been applied for purposes of racial comparisons have been mainly the Alpha and Beta scales of the U. S. army examinations. Brigham[1] has carried out the most extensive analysis of the army data to prove the supposed superiority of the Nordic over both the Alpine and Mediterranean races, by attempting to compare the performance of these three races as represented by the foreign born recruits. But unfortunately for Brigham's purpose the foreign born recruits were not classified in the army data by race but simply by country of birth. As is well known the population of the countries of Europe is never solely Nordic or Alpine or Mediterranean but mixed. The problem of calculating racial performance from the scores of men whose race is unknown would seem to be an insuperable one but Brigham attempted it by means of an ingenious method. He first of all estimated the percentage representation of races in each country. England for example, according to his table, contains 80 per cent Nordic and 20 per cent Mediterranean blood. He then takes the distribution[2] of scores of the English-born recruits and

1 Brigham, C. "A Study of American Intelligence".

2 Brigham describes the method as follows—"In order to obtain an estimate of the intelligence of the three European races in this country, the distributions of the intelligence scores in the combined scale given in Table 9 were cut according to the proportions given in Table 33, and recombined into Nordic, Alpine and Mediterranean groups." P. 168.

Table 33 is "Tentative estimates of the proportion of Nordic, Alpine and Mediterranean blood in each of the European countries."

"cuts" this distribution at each score level and credits 80 per cent to the Nordic and 20 per cent to the Mediterranean column—hence if five men scored 22, four of them would be considered Nordics and one Mediterranean. Having divided each of the other foreign born groups according to their racial percentages he recombines the distribution into Nordic, Mediterranean and Alpine and shows the superiority of the Nordic. But in cutting the distribution in this way he has assumed that the distribution of the 20 per cent of Mediterraneans born in England has exactly the same range and character as that of the 80 per cent of Nordics, or in other words that the members of the two races if born in the same country have exactly *equal intelligence*. Then with this assumption as the basis of his calculations he proceeds to prove that these races are *unequal in intelligence*. Naturally his racial comparisons fall at once to the ground.

However, errors in statistical treatment of results are not at present our concern but rather the nature of the tests themselves and the claims made that they do actually measure native or inborn intelligence. Our contention is that both the Alpha and Beta examinations are substantially of the same character as the Binet and that they give us a better measure of ability to respond to the demands of schooling than of ability to deal with life's more direct and practical problems. In short even if we did concede Nordic superiority in Alpha or Beta performance, we believe that these are only partial measures of native worth. That this view is justified may be seen from our later discussion of the nature of these tests.

One feature which Alpha did not share with the Binet —the "mental age" standardization—some psychologists hastened to supply in the form of a table of "mental age" equivalents, so that we may now state that the average intelligence of the American nation is 13.8 years. To

translate army test-scores into the inadequate units[3] of another scale and then to take the result as a true estimate of national intelligence is, we believe, a quite invalid procedure. The statement of this age may be rightly interpreted to mean that average school learning capacity develops to about a fifteen or sixteen year level, but the fact that learning capacity reaches its peak about that age was already known. It may also be taken to mean that the average American is not capable of profiting beyond the level of an eighth grade or first year high-school education—but this is not surprising or unexpected.

Another point that must be remembered is that this scaling down of the army scores to the units of a mental-age score of doubtful value makes the latter the ultimate criterion. Hence the proofs of the value of the Alpha in selecting men for different branches of military service has nothing to do with the validity of the mental-age ratings. While the Alpha results were kept in terms of

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[3] How inadequate these units are may be gauged from the following facts. In an examination of one thousand Australian children attending the public schools and who could fairly be considered average children, the median score by the Stanford-Binet of the children 13½ years of age was only 12½ years. This means that a child of this age who tested 12½ years is not a year below the average as the tests make him appear to be, but is really quite equal to the average. In other words the tests do not give us a fair estimate of ability at these levels. To apply such standards to the measurement of the general population is equivalent to measuring stature with a yardstick which purports to be three feet in length but is really some inches over. Measured by such a rod the average stature would appear to be very low. The error in standardization occurred because the tests were applied by Terman to "middle-class" children, but the "middle-class" child by no means represents the average child in the population at large. An analysis of three thousand of Dr. Goddard's cases shows that his revision which closely followed the original Binet is even more astray. One hundred and eighty-four children aged 13½ years had a median score of only 11 years! This means that only the super-intelligent would appear as normal by the tests.

a point score, the number of "A" men to be found in the nation would depend entirely on where one draws the line that marks off an "A" level score, and hence has but little significance. But immediately these scores are translated into mental-age levels and we are told that many millions—perhaps thirty—are below the mental age of children of twelve years, it is time to examine carefully the nature of the tests upon which such statements are based.

An examination of the Alpha army tests reveals the fact of its emphasis upon tests of the literary or verbal type, and hence that it is unsuited to men who come, not straight from school, but from the office, the factory, the farm and the workshop. There is little doubt that the recency of school experience is a direct factor in success in the tests. The prediction could be safely made that high-school students would excel in performance men of equal intelligence who are many years removed from the schooling period. A brief resumé of the tests will indicate why this should be so.

The first of the Alpha series consists of a test in following complicated directions, the response to be given being quite irrelevant to the stated problem. This is supposedly a test of a kind of mental alertness but mental alertness, like memory, is not a single capacity, but may differ very much in different situations. This ability to follow extremely needlessly involved statements is related to no everyday experience or operation that we can think of, unless it be the understanding of a traffic policeman's directions when we try to find our way about a new city. We have no means of knowing that the ability to solve very readily such a problem as—"If 7 is more than 5, then (when I say "Go") cross out the number 6 unless 6 is more than 8, in which case draw a line under the number 7"—would have any conceivable relation to the mental

alertness that a trolley motorman, for instance, needs to possess.

The second test consists of twenty problems in arithmetic to be solved within a certain time limit. Success will be naturally very much affected by the recency of the individual's experience in this kind of work. The third test is one supposedly of "commonsense," success being largely dependent on the ability to take in quickly the meaning of a printed statement. The fourth test is a literary test concerned directly with the meanings of words. So also the fifth test in which the subject is required to rearrange a "pickled" sentence and then indicate whether it is true or false. This also involves an ability for literary construction. Tests VI and VII are tests of logical relations, in one the material being words, in the other numbers. Test VIII is a test of common knowledge and is the one in which actual extent of life experience other than schooling is a factor. From this brief summary of the test it should be recognized that it would naturally correlate well with the Binet test and would also be indicative of school proficiency. That it means much more than this remains to be proved.

The army Alpha test, if it does nothing more, proves conclusively how little the psychologists know of the mental range of the man in the street, the labourer on the farm, the mechanic in the shop, in short, of the average man whose intelligence he seeks to measure. The psychologist and the educator, as a matter of fact, speak a different language to the ordinary man. If we really knew how "unliterary" the average man is, we should not be at all surprised that his attainment is so low in tests of the Alpha type. The psychologist's ignorance of the range of the ordinary man's literary understanding is well illustrated by the directions for one of the tests which the examinee must read and follow. Test VII of the Alpha

series sets out by stating that in the examples given, two words are related to one another in some specific way and then goes on to say: "What you are to do in each line is to see what the relation is between the first two words and underline the word in heavy type that is related in the same way to the third word." For the man whose only idea of relations is of his uncles and aunts, these directions would seem very involved and quite incomprehensible. Similarly in test III, which is described as a test of common sense, we find such a statement as: "Theatres are useful institutions," the problem being to choose out of three reasons the correct one. In this case the reason to be chosen is: "They afford a method of relaxation." Surely it is evident that this is much more a test of vocabulary rather than of common sense. Even the statement that cotton "is a vegetable product" is couched in language which the ordinary man is not in the habit of using. When it comes to a straightout vocabulary-test, such as indicating whether a pair of words have the same or opposite meaning, the plain man is very quickly drawn beyond his depth. "Allure-attract," "deride-ridicule," "haggard-gaunt," "orifice-aperture" are pairs of words which come quite early in this test and are surely outside the ordinary man's range of understanding. Quite evidently this is no test of intelligence except for those who have had considerable educational opportunities. To suppose for a moment that such a test could be relied upon to fix the amount of the average man's intelligence is to betray a remarkable ignorance of the common man's world. The army Alpha smells strongly of the school-library and the class-room; in fact there is a very close relation between success in the test and the amount of schooling the subjects have enjoyed. How unfortunate that the farmers, the mechanics, the electricians could not devise a test for the psychologists. If they did, one wonders what the

mental age of the latter would appear to be. Yet it would be just as reasonable to take the psychologist out of his sphere of activity and test him there as it would be to give a literary or scholastic test to men whose after-school study and reading is confined to the advertisements, the baseball news, or the comic sheet of the daily press, with an occasional glance at the account of the murder of the moment.

In some studies of racial differences it has been assumed that the non-verbal Beta test is in all respects a much fairer test of the ability of the foreign-born immigrant or immigrant stock than is the Alpha army or the Binet. This is undoubtedly true insofar as it avoids the language difficulty. But it is easy to show that at bottom it tests predominantly the same capacities as the Binet, except that the tests are applied through a medium other than language. The selection of tests was based largely on the correlation with Stanford-Binet, the object of the investigators being frankly to find a substitute for a Binet examination that would be applicable to illiterates. The capacity tested predominantly in the Beta test is speed in memorizing discrete material, a capacity which also plays a large part in successful adjustment to the kind of situation that school work presents, at least in the early stages of school work. Kimball Young has found that the Beta correlates almost as well (.72) with the grade standing of foreign-born children as the Alpha (.76). An analysis of the test will show why it measures school proficiency so well.

The first test of the Beta series consists of a series of mazes of increasing complexity, through which the subject threads his way in as short a time as possible. As soon as the more difficult mazes are reached, success depends upon the subject's ability to trace quickly the correct course in advance with his eye, and then to hold that

course in mind while he marks it with the pencil. It thus becomes a test of rapid perception and of visual memory for distance and direction, or, as it is called in the Binet test, memory for design. The Beta mazes differ from the Porteus mazes in that the latter places no such emphasis on speed of working nor memory for design, but is rather a test of the person's tendency to use prudent preconsideration before action. The difference between the Beta maze test and the memory for design test in the Binet is that ten seconds are allowed in the latter for studying two given designs before reproducing them, while in the former test the correct solution must be first found and then very quickly committed to paper. There are of course other factors than memory involved in the Beta maze test, but it is undoubtedly one of the chief factors in success.

In the second Beta test a picture of a number of cubes piled together in various ways is presented, the task being to calculate the number of cubes in the pile. This involves rapid visualization of the rows of blocks that are partly hidden, the holding in mind of these numbers and the rapid addition of the totals. The problem is therefore much akin to a problem in arithmetical addition—only instead of the numbers being presented on paper, the process of adding is interrupted by the necessity of calculating the addends. The problem belongs in the class of what might be called "trick arithmetic".

The next test is very largely a problem in rote memory, only instead of digits, combinations of noughts and crosses are to be memorized visually. One combination for instance, consists of four crosses, three noughts, two crosses and one nought printed thus—

xxxxoooxxoxxxxoooxxo . . . . . .

the problem being to continue the series in the right sequence.

The facility with which we discover the key combination is dependent upon rote memory (rapid impressionability and retention for a period sufficiently long for reproduction). In scanning the line we must recognize when we come to the second series of four crosses that we have seen this combination before, then that it was followed by three noughts, etc. The marking down of the series is thus an easy matter.

Test IV is a memory-association test in which each digit from 1 to 9 has a different symbol associated with it, the key series being printed at the head of the page. The problem consists of placing the associated symbol under a series of digits given in mixed relations. Owing to the time-limit conditions, a good score consists in memorizing or associating each combination of digit and symbol. Memory is called into play, but as each combination must be kept in mind for some time it is not a test of immediate or primary memory so much as what is called mediate memory.

Test V is a test of matching numbers, and in this test primary memory comes largely into play. The numbers are printed in pairs in some of which the two are identical as 8570273301 and 8570273301, and in other cases the pairs of numbers look the same to casual inspection but are really different e. g. 6543920817 and 6543920871. The best way to work this is to compare these numbers three or four digits at a time. In this way the test really becomes one of rote memory, though the key to success is of course the hitting upon this easy method which has the effect of turning a difficult test of rote memory into an easy one. Test VI is a test of detecting missing parts of pictured objects, success being most affected by the subjects' familiarity with the objects and to a certain degree with pictures. The recency of school experience may easily be a factor in this test. Test VII is a test of

geometrical construction in which memory for form plays some part.

From this survey of the Beta tests it will be seen that memory of one kind or another is a most prominent factor in success. In the first years of school life the emphasis is placed on memorizing rather than reasoning. The fundamental operations of arithmetic, spelling and reading practice put a premium on ready impressionability and retention. If a child with relatively slow memorizing ability can be helped over the early stage of school work and can be carried along to the stage when the initial difficulties having been mastered, the subject-content of his studies becomes more interesting, then his handicap does not press so heavily upon him. Cases of educational retardation in the lower grades are very frequently associated with poor memory tests. Hence we can readily understand the relation between Binet, Alpha and Beta, and school proficiency. Over-emphasis on memory or literary ability or recency of school experience is an important factor in most of the tests and thus they all tend to reflect "brightness" rather than intelligence in the subject.

Chapter XIV

PREVIOUS STUDIES

From our discussion both of the nature of the psychologist's measuring instruments and of the nature of what they essay to measure, it will be seen that they have attained only very partial success. There are very many important factors in intelligence which the tests either do not measure at all or measure very inadequately. This statement does not mean that we decry the value of the tests, but only that we are endeavouring to see them in right perspective and particularly in proportion to a properly comprehensive testing program. That we have been as successful as we have in measuring all-round ability as affecting school progress is matter for congratulation. We are ready enough to accept the predictive value of tests such as the Stanford or Alpha with regard to book-learning, but we would insist on the view that they do not measure adult or adolescent intelligence adequately and that they are particularly poor indicators of social adaptability in the situations and at the level at which the ordinary man functions. Because of their literary emphasis they make it possible to distinguish that kind of ability which authors, editors, preachers, or teachers employ; because of their lesser emphasis on other special aptitudes they are less successful in distinguishing the kind of ability which would be most useful to, say, engineers or surgeons or sculptors; and because of their neglect of mechanical aptitudes they would make very invalid estimates of the kinds of ability that skilled or semi-skilled artisans or unskilled labourers employ. One rea-

son for this inadequacy is that the test situations as we find them in the Alpha Army or Stanford-Binet become progressively less familiar to persons in these occupational levels as we have named them. If we wish to know whether a boy will make a good carpenter, we shall not discover it by finding out how wide a vocabulary he possesses but rather what practical ability he has of a specific kind. Except within very wide limits a Binet score is a very poor indication of the industrial trainability and aptitudes of even a defective.

Hence we must be very careful of our conclusions when we come to compare group with group or race with race by these tests. Equality in average score will not mean equivalence of racial intelligence. The tests should be taken for what they are worth—as indicators of school proficiency and as little more. But in view of what we have said with regard to the demand for all-round adjustment at a low level which school proficiency implies, we may safely conclude that a race whose average falls below what we have called the basic level (placed tentatively at 12 years) will certainly not be otherwise than inferior.

But in determining this racial average we must be very careful to avoid the error of taking an unrepresentative group, that is to say our cross-section may be taken at too high or too low a level. A great deal has been made by certain writers of the fact that in mental abilities the various races overlap, that is to say the range of ability in each race may run all the way from genius to idiocy. To compare only high-school students of Northern and Southern European stock, as one writer has done, and show that no mental differences exist, proves nothing with regard to their respective racial averages. High-school students are naturally a group who have been selected on the basis of their educability, and approximately the same group-average in attainments may naturally be

expected. We should need to know also what percentage of each race reach this level of ability before we could draw any deductions as to racial equality or inequality. One race may be inferior to the other not because a certain level or ability is unrepresented in the one race, but because there are much fewer individuals of that particular level of ability.

Another difficulty with regard to establishing racial norms through selected groups lies in the fact that certain localities, because of the industrial conditions, attract a better or worse social class of certain nationalities. For example, the industrial opportunities in the Northern states attract the more progressive and intelligent negro; so that neither Northern or Southern negroes are thoroughly representative of their race. Brown, in applying Stanford-Binet tests to various nationalities, explains the low position of the Italians in part to the fact that they were miners doing unskilled work of the kind that does not attract the better-class Italian.

The importance of taking into account social grade has been emphasized by such investigators as Arlitt and Garth and minimized by Kimball Young and Brigham. The latter says,[1] "Particularly misleading and unsound is the theory that disregards all differences found between racial groups unless the groups have had the same educational and environmental opportunities." And again: "If intelligence counts for anything in the competition among human beings, it is natural to expect that individuals of superior intelligence will adjust themselves more easily to their physical and social environment, and that they will endow their children not only with material goods but with the ability to adjust themselves to the same or a more complex environment. To select individuals who have fallen behind in the struggle to adjust themselves to the

[1] Brigham, C.—A Study of American Intelligence. p. 193.

civilization which their race has built as typical of that race is an error; for their position itself shows that they are for the most part, individuals with an inferior hereditary endowment . . . . To select children of equal education, age for age, in the two groups, is to sample either superior negroes or inferior whites."

This viewpoint seems sound for the reason, as above stated, that we should need to know the frequency of the inferior social grade in each race before we could make a proper comparison. For such a race as the negro it can be accepted without question that there is a greater proportion, at any given level, of inferior attainments than there is of whites. Consequently any comparisons that are made of inferior whites and negroes which show an advantage for the former, represent a real racial superiority.

In other racial comparisons we cannot be so sure of this factor. It may easily be that the groups compared may be, relatively to their whole race, of different social status and social grade, and this factor would undoubtedly affect the scores in certain tests. In such tests as the Stanford-Binet and the Alpha army with their overemphasis on language ability, the children coming from the better-class homes will inevitably score higher.

In the same way language disability, due to foreign birth or parentage, is, despite the opinions of some psychologists who would minimize the effect of this disability, a decided handicap. This factor seems to weigh more heavily in the case of a test such as the National Intelligence than the Stanford. Colvin and Allen found the average Binet I. Q. of American and Italian children to differ only slightly (American 92, Italian 91); but the same children's score in the National Intelligence Test differed materially—American 85, Italian 76.

The comparisons that have been made with regard to

the negro are most likely to be valid because the disturbing factors above mentioned do not operate so heavily. The investigations have been sufficiently extensive as to cover the geographical distribution of the American negro; there is no language handicap and all social grades of the negro are represented. These studies show that the negro actually belongs, as far as all-round ability goes, to an inferior race. Arlitt compared native white, Italian, and negro children. Selecting the white children of inferior or very inferior status, she found the median I. Q.s to be as follows—White 92, Italian 85, Negro 83.4. These results apparently indicate an undoubted difference in all-round ability in childhood. Murdock, working in New York City, tested groups of children from two rather undesirable localities. She used the Pressey Group Intelligence test and her cases included Hebrews, Italians, Negroes, and native whites. The Hebrews on the average equalled the whites, but the negroes and Italians were considerably inferior. Thirty per cent of the negroes and only fifteen per cent of the Italians equalled or exceeded the Hebrew median.

Comparing the white draft with the coloured as regards performance in the army tests, we find distinct differences in score. Translated into mental age equivalents the median score of the coloured was only 10.4 years, more than 2½ years below the median score of the whites. The low level of this score indicates a very serious inability in the negro on the average to avail himself to the full of educational opportunities that are afforded him. The mental inferiority which such a low score signifies is undoubtedly important. When the comparison is made on the Beta scores alone the differences are still apparent. The median score for northern negroes was 10 points below that of whites and of Southern negroes 23 points below. On the Alpha test the differences are of course

very much greater. Northern negroes were 20 points below, Southern 47 points below. Hence whether literates or illiterates are tested, the negro is below the white in the mental capacities which influence school-proficiency.

Considering the limitations of the tests used, the differences may not be really as great as are apparent. In his excellent summary of the work done with negroes, Pintner,[2] in speaking of the failure of the tests to reveal qualitative differences states: "In saying this we must remember that we are restricting ourselves entirely to the type of intelligence which is largely verbal or abstract; that is the sort of thing which is tested most effectively by the Binet and customary group tests. Mechanical intelligence has been much less effectively measured, and social intelligence practically not at all. Furthermore we must remember that we have not raised the question as to emotional and moral differences between the two races."

It is necessary to reiterate again and again warnings as to the meaning of such racial comparisons. So frequently do we find the range and complexity of the problem justly stated, followed by thoroughly general and unjustified statements of conclusions. Some studies have begun by defining intelligence as "what the tests measure", and then have proceeded to make statements regarding intelligence in general which is certainly not "what the tests measure."

Our analysis of the Binet and Alpha tests in the previous chapters has been undertaken to show their inadequacy as a basis for conclusions regarding the general mental status of races. We have aimed to show that they are measures of only a single aspect of intelligence, of one set of factors in progressive adaptability and that they have therefore only a partial application in the large problem of racial comparisons.

[2] Pintner, R.—Intelligence Testing. p. 345.

PORTO-RICAN BOY
(Photo by R. J. Baker)

NEGRO-HAWAIIAN GIRL
(Photo by R. J. Baker)

Of the rest of the studies of racial intelligence there are very few, unless it is concerning the Italians, which are either of such a nature or scope as to enable us to make valid comparisons even on the limited basis that the existing tests make possible.

One of the few serious studies along these lines has been made by Young,[3] who compared children of what he calls Latin origin—Portuguese, Italians, and Spanish-Mexicans. He concludes that the Latins are inferior to American children in general intelligence as measured by teachers' estimates, in quality of school work and in the average grade reached in school, in Alpha test performance, where the whole range of Latin performance is only 75 per cent of that of the Americans, and in Beta test performance where their disadvantage is not so great but still marked. His contention is that these differences are due, not to language handicap, but to inferior mental capacity which makes the Latins unable to compete with the children of North European ancestry in the mastery of the traditional American public-school curriculum.

In this investigation it is shown that school progress and test results tell the same story. It is evident that the all-round ability of the Italians and Portuguese and Spanish-Mexicans is low. It is probably that in a disproportionate number it sinks below that basic level which is essential to getting along in the world, so that an advantage in temperamental and specific abilities, if any exists, will not suffice to raise these peoples to the level of intelligence of the white group. In what Pintner calls mechanical intelligence, however, there may be some gains made by the Latin groups. Also with regard to temperamental traits affecting social progress, we are inclined to think that the Italians might improve their position.

[3] Young, Kimball—Mental Differences in Certain Immigrant Groups. p. 63.

On this point there is very little evidence. Davenport and Craytor[4] in a comparative study of children of different races by means of a graphic rating scale, found that the Italians ranked low in leadership, pertinacity and frankness. Only in generosity did they get an equal rating to Germans and in loyalty only a medium rating. These ratings were, however, given by teachers, and almost invariably their judgments are coloured by the pupils' progress in school.

Summing up these results, we may say that while differences in mental level have been demonstrated for various racial groups, we cannot be sure of the value of these differences. The uncertainty arises because we do not know how far the groups compared are drawn from the average of their race as regards social position, nor do we know the frequency of appearance or the distribution of a certain grade of ability in each race. Some races may be more variable in this latter respect than others. Most of all the uncertainty is due, however, to the inadequacy of the measurements that have been made. We cannot therefore legitimately make statements as to the superiority of the races as such; all that we are justified in stating is that certain Southern European races, as they are represented in this country are inferior in capacities which underlie school proficiency. The absolute inferiority of the negro we may assume to be fairly established. It is also true that on the mental side, and probably on the temperamental also, the general position of the Italians here is low.

With regard to the Oriental races the position is different. These too are to some extent handicapped by language difficulties. Unfortunately we have no data

[4] C. B. Davenport and Craytor L. C,.—Comparative Social Traits of Various Races, Second Study. Jour. App. Psych. Vol. VIII No. 2. p. 127-134.

available, except indirectly, to make possible a comparison of mainland Japanese and mainland Chinese. We have, however, several investigations dealing with each separately. The results go to show no such marked inferiority in school proficiency as are to be demonstrated for such racial groups as Young has studied.

Darsie[5] has issued a preliminary report on the study of Japanese children in various localities in California, which contains some very interesting comparisons with white children. He found that the Japanese average intelligence quotient was 90.2, as against an average of 99 found by Terman for white children. This difference may be in large part accounted for by language disabilities on the part of the Orientals. Evidence for this lay in the fact that the children in the larger cities were distinctly superior in score to children in smaller cities and rural communities. Darsie expressly states that Japanese children were markedly inferior to Americans in tests in which language plays an important part, but equal or superior in tests not of this type. They were also equal in tests of reasoning power and markedly superior in tests of rapid learning ability.

In the Beta test their memorizing abilities stood them in good stead. At 10 years of age their score is equal to that of the American children and at 12 years they hold a decided advantage. The scores for various races at this age are given as follows:

TABLE 14

Race	Age	Beta Score
Japanese	12 years	79.5
Italians	12 years	54
Spanish	12 years	52.7
Portuguese	12 years	52.5
American	12 years	68.3

[5] Darsie—Preliminary Report on the Mental Capacity of Japanese Children in California.

The superiority of the Japanese is remarkable, but Darsie utters the warning that the Beta "has not proved to be nearly as reliable a measure of intelligence as the Binet," and that caution is necessary in interpreting these results. As we have previously pointed out the dependence of the Beta on memory, the superiority of the Japanese is easily explained. In his conclusions Darsie states that the Japanese in California are somewhat inferior in intelligence to Northern Europeans but are markedly superior to Southern Europeans, while in application and capacity to learn, he believes that they are probably superior to any European race. His final conclusion seems to be of first rate importance.

It must be remembered, however, that because these children were judged in school, the tractability, studiousness, and single-minded purpose so characteristic of Japanese children would naturally impress their teachers very favourably. So this favourable judgment in general would tend to influence all their particular judgments of individual traits. Thorndike has pointed out that this is a common source of error in the application of rating scales—each individual who is rated tending to have a certain "aura" which is likely to colour all our judgments of him. It is noteworthy that in Darsie's list of "character" traits the Japanese are rated as slightly superior in such traits as desire to excel and conscientiousness, approximately equal as regards cheerfulness, will-power, and general intelligence and slightly inferior in "originality." Apparently there was no attempt to weight these traits, so that quite possibly this inferior rating in "originality" may have been much more significant than the ratings on many other traits.

The general tenor of Darsie's report is, as may be judged, very favourable to the Japanese. One very interesting feature is the difference in school achievement

of the rural Japanese compared with those in San Francisco, the former having decidedly inferior standing. This may mean that the cities exercise a selective influence in attracting the more intelligent Japanese, or it may be a more direct environmental effect, the more numerous social contacts in city life tending to improve the child's power to adjust himself to the school situation. Probably the first named factor is the more important, and if so it would point to the need for care in drawing deductions as to the status of the race as a whole from a limited sampling of the population.

Of other available studies on Oriental children in U. S. A. none are comparable with Darsie's as regards thoroughness and scope. Kwok Tsuen Yeung, a Chinese investigator, examined a small group of Chinese children who were attending schools in San Francisco and its vicinity. According to Yeung these children were living in an environment more Chinese than American. In their home the original Chinese language, customs, beliefs, and religion were all retained. Yet the median Binet I. Q. of these children was only two points below that of average American children. Drawing upon another investigation by Dickson for part of his data, Yeung gives the following table of I. Q.s for different racial groups:

TABLE 15

Race	Number examined	Median I. Q.
Spanish	37	78
Portuguese	23	84
Italian	25	84
Chinese	109	97
N. European	14	105
American	49	106

As regards grade standing the Chinese showed more retardation than American children. The majority of

the parents belonged to the skilled, semi-skilled, and unskilled occupational grades, the correlation between children's I. Q. and parent's occupational status being .49, the test results being in many cases above what would be expected from the social grade of the parents. This may mean lack of opportunity in the parents, or it may mean a lack of qualities and traits other than those included in our I. Q. classification, and which are essential to success.

A small investigation is reported by Fukuda on Japanese children, using a modified Binet. He found the median I. Q. to be 97, the same as that obtained by Yeung on Chinese children. With an unmodified Binet, however, it would probably have been lower as the vocabulary test was not used and in this test language disabilities would weigh heavily.

The general conclusion that we may reach from these studies is that in the capacities which underlie school proficiency the Northern Europeans excel the Southern. The amount of the difference between Nordic and other European strains cannot be accurately determined because of the number of factors that obscure the issue but the number of investigations that point in the one direction seem to establish the fact beyond dispute.

No such differences are apparent between European and Oriental children. Despite language handicap the latter score distinctly above the level of the Southern European groups and very little below the level of the American native white or children of Northern European stock. Their adjustment to the demands of an American school curriculum is but little inferior to that of white children, their favourable position being due apparently to distinctly good memorizing ability. According to mainland studies there are no very significant differences in learning capacity between the Japanese and Chinese, the advantage if any being in favour of the Chinese.

Chapter [illegible]

[illegible]

In the early part of this section we considered the nature of the commonly accepted mental measurement scales and gave a brief survey of the more important investigations in the field of racial psychology that have been carried out by [illegible] means. While our general conclusion is that these scales do not adequately measure all the factors in social adaptability but are more nearly related to scholastic proficiency, we readily concede that differences in school learning capacity, if demonstrable, are of importance. All that we would insist upon is the view that the tests tend to grade individuals or racial groups according to one class of ability only. Nevertheless, while we recognize the limitations of the method we have in our racial comparisons by no means neglected investigations in this field, and in this section our purpose is to report the results of these studies.

All of our examinations were carried out in the public schools, the great majority of the cases being in attendance in city schools. In all, eight schools were taken, four of them being city schools and four large rural schools, the former group consisting of [illegible], [illegible], [illegible] Normal School, and St. Louis, the latter group of [illegible], [illegible], [illegible], and [illegible] Brothers School. A modified Binet scale was applied, the plan being to examine all the nine, twelve, and fourteen-year children available in each school. All the Japanese and Chinese children required to equalize our numbers were

"gifts?" Until we have gathered information on all these points, we must beware of drawing general conclusions with regard to the intelligence of groups, whether racial or inter-racial, which are based upon partial and insufficient examinations of individuals.

Chapter XV

LEARNING CAPACITY AND RACE

In the early part of this section we considered the nature of the commonly accepted mental measurement scales and gave a brief survey of the more important investigations in the field of racial psychology that have been carried out by their means. While our general conclusion is that these scales do not adequately measure all the factors in social adaptability but are more nearly related to scholastic proficiency, we readily concede that differences in school learning capacity, if demonstrable, are of importance. All that we would insist upon is the view that the tests tend to grade individuals or racial groups according to one class of ability only. Nevertheless, while we recognize the limitations of the method we have in our racial comparisons by no means neglected investigations in this field, and in this section our purpose is to report the results of these studies.

All of our examinations were carried out in the public schools, the great majority of the cases being in attendance in city schools. In all, eight schools were taken, four of them being city schools and four large rural schools, the former group consisting of Kaiulani, Kaluwela, Honolulu Normal School, and St. Louis, the latter group of Ewa, Waialua, Kaneohe, and Wailuku Brothers School. A modified Binet scale was applied, the plan being to examine all the nine, twelve, and fourteen-year children available in each school. All the Japanese and Chinese children required to equalize our numbers were

found in six of the schools, in the other two schools Portuguese only were examined. It can be safely assumed that the children were unselected except on the basis of age and are representative of their racial group in Hawaii. The plan followed to insure a more representative sampling was to select the schools where the largest numbers of children of these races were in attendance and then to examine all available children of the selected ages.

229 Japanese, 212 Chinese, 105 Portuguese, and 105 Hawaiians were examined by this modified Binet scale. In the case of the Oriental races both boys and girls were tested, in the other two races boys only. The Hawaiians examined were not in the majority of cases pure Hawaiians but for the most part Chinese-Hawaiians and white-Hawaiians. As there were not enough of them to divide into groups according to race mixture, their performance does not give us any conclusive data on the question of racial differences. Nevertheless their inclusion adds to the interest of the study.

The testing was done entirely by the authors with the exception of a few cases in which the children were examined by two trained assistants under the authors' supervision. Previously to undertaking this research, three hundred cases had been examined by the staff of the University Psychological Clinic and on the basis of these results certain modifications in the Binet were made. These modifications consisted in eliminating the tests of the Stanford revision which our experience showed were most affected by language disabilities. Those not used in the scoring included the vocabulary test for each year, definition of abstract words (years XII and XVI); changing clock hands (XIV). In year XII we did not give the test of detecting similarities between a snake, cow, and sparrow, not so much because of its dependence on

language as because of the reaction obtained from children who sometimes answered: "I think you fool me," when this question was asked. As a matter of fact this reaction is to our mind a very reasonable one—the test is undoubtedly a silly one. From this year also the "ball and field" test was eliminated, the presentation of the problem of finding an imaginary ball in an imaginary field (represented by a ring) was usually met with a blank stare, being too much for the practical-minded Orientals. This test is supposed by Terman to have a special value because it ostensibly represents a real situation, but the supposition, like the test itself, is too imaginary. In accordance with our experience with defectives the Terman ten-year test of memory for designs was scored as a twelve-year test.

From the tests for year X the absurdities test and the comprehension of difficult questions were omitted because of their dependence on language, but the Stanford alternative—repeating six digits in order was used. In order to have a continuous series of rote memory tests the repetition of the seven digits, a test which Terman places as an alternative for year XIV, was used in place of the "induction test." The test "repeating four digits backwards" was used as a ten-year test, but as equal credit is given by Terman for this test whether used as a nine-year or ten-year test, its position in the scale makes no difference.

From year IX we omitted the test "knowing the date" as being too directly dependent upon the experience of the child and also the "rhymes" test as dependent upon verbal ingenuity and language facility, using in place of this the "value of stamps" test.

In year VIII the "ball and field" test, the "comprehension of questions," the "similarities" test and the "vocabulary" test were left out, using in place of two of these,

TABLE 16

MODIFIED BINET TEST

(From Vineland Revision)

Year V (Each Test Credit 3 Months)	Year IX (Each Test Credit 3 Months)
V—2 Colors	IX—2 Weights
V—3 Aesthetic Comparison	IX—3 Making Change
V—5 Patience	IX—4 Stamps
V—6 Memory for Commissions	IX—5 Sentence Construction
Year VI (Each Test Credit 3 Months)	**Year X (Each Test Credit 3 Months)**
VI—1 Right and Left	X—3 Repeat 4 Digits Backwards
VI—2 Missing Features	X—4 Reading and Report
VI—3 Counting 13 Pennies	X—6 60 Words in 3 Minutes
VI—5 Coins	X—Alt. 1 Repeat 6 Digits
Year VII (Each Test Credit 3 Months)	**Year XII (Each Test Credit 6 Months)**
VII—2 Description of Pictures	XII—3 Designs
VII—3 Repeat 5 Digits in Order	XII—4 Dissected Sentences
VII—4 Repeat 3 Digits Backwards	XII—5 Interpretation of Pictures
VII—6 Copying Diamond	XII—Alt. I Repeat 5 Digits Backwards
Year VIII (Each Test Credit 3 Months)	**Year XIV (Each Test Credit 6 Months)**
VIII—2 Counting from 20 to 0	XIV—2 Repeat 7 Digits
VIII—5 Definitions Superior to Use	XIV—3 President and King
VIII—Alt. 1 Six Coins	XIV—4 Problems of Fact
VIII—Alt. 2 Dictation	XIV—5 Mental Arithmetic

Year XVI (Each Test Credit 6 Months)
XVI—2 Interpretation of Fables
XVI—4 Problem of Enclosed Boxes
XVI—5 Repeat 6 Digits Backwards
XVI—6 Code

two alternative tests, the "value of coins" and "writing from dictation."

In year VII we omitted the tying of the bow-knot, knowing the number of fingers on each hand, and giving

the differences between common objects, substituting for one of these, Terman's alternative—repeating three digits backwards.

From year VI we omitted the "comprehension" test and the "repetition of sentences" test. The result of these changes was that four tests were left for each year from six years onwards, three months credit in score being allotted for each success up to twelve years and six months credit for the twelve-year and following tests. The full list of the tests given will be found in Table 16.

The selection of the tests that were used was such as to put a rather heavy emphasis upon rote memory tests because these tests could be so easily applied to children with language disabilities. One difficulty that we met was the unwillingness of the Orientals to attempt tests involving them in verbal expression to any length. The test situation differed entirely from that of the school where the answer could be so often given in the words of the book or of the teacher. There was evident an unwillingness on the part of the children to commit themselves to an answer unless they were quite sure of the purport of the tests. Mistrust of the examiner's purpose rather than misunderstanding of the test itself was the important feature to them. Hence several tests which on *a priori* grounds might be expected to be applicable did not work at all well. The "ball and field" test was a case in point, and the "memory for sentences" test another which the child very often would not attempt unless he was quite sure of success.

Other tests lending themselves to ready application were those dependent on school instruction such as "reading and report," "counting backwards," arithmetical operations and the like. As many as possible of the tests of practical judgment were retained. The chief difference between the scale used and the Stanford was its lesser con-

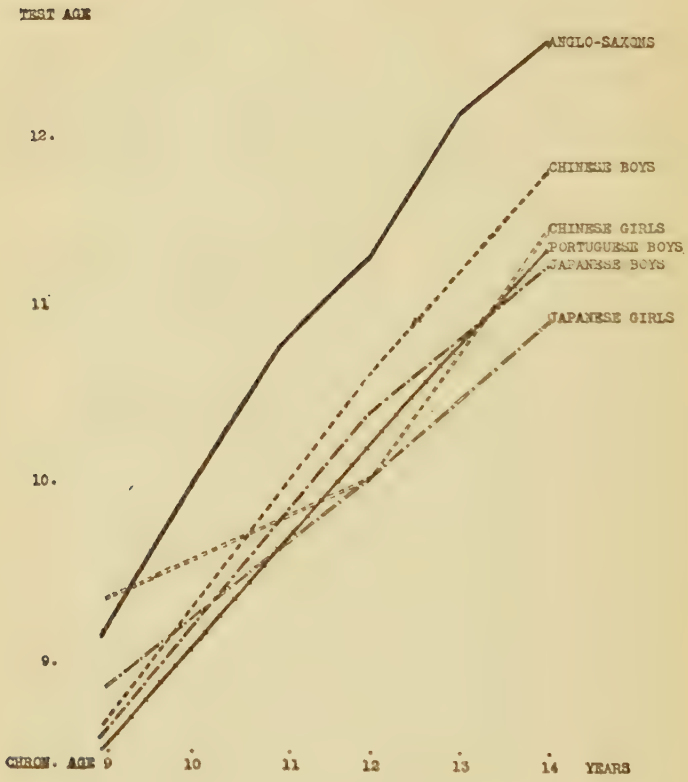

FIGURE 9

INTELLECTUAL CAPACITY OF RACES
BINET TEST AVERAGES.

Table 17
MODIFIED BINET RESULTS
651 Cases

Age	Race	Sex	No. Cases	Average Binet Age	Average Binet I. Q.	Median Binet Age	Median I. Q.	S. D.	P. E.
9 yrs.	Japanese	Boys	42	8.61	91	8.71	93	1.06	.078
	Chinese	Boys	35	8.67	92	8.95	95	1.07	.086
	Portuguese	Boys	35	8.55	90.5	8.35	89	.95	.076
	Hawaiian	Boys	35	8.77	93	8.75	92	1.02	.082
	Japanese	Girls	35	8.88	94	9.0	94	.84	.067
	Chinese	Girls	36	9.37	99	9.21	97	1.11	.088
12 yrs.	Japanese	Boys	37	10.42	84	10.11	83	1.06	.083
	Chinese	Boys	37	10.64	85.5	10.35	85	1.23	.096
	Portuguese	Boys	35	10.26	82.5	10.39	83.5	.92	.074
	Hawaiian	Boys	35	9.98	80	9.90	80	1.07	.086
	Japanese	Girls	39	10.07	81	10.25	82.5	1.21	.092
	Chinese	Girls	36	10.07	81	9.84	80	1.11	.088
14 yrs.	Japanese	Boys	39	11.25	80	11.1	80	1.18	.09
	Chinese	Boys	35	11.78	84	11.92	85.5	1.47	.118
	Portuguese	Boys	35	11.35	81	11.25	80.5	1.29	.104
	Hawaiian	Boys	35	11.25	80	11.25	80.5	1.54	.124
	Japanese	Girls	37	10.93	78	10.89	78	1.09	.085
	Chinese	Girls	33	11.44	82	11.31	81	1.33	.11

tent of tests dependent on language. Because of the selection of tests the modified scale would naturally be expected to give a very fair indication of the subject's attainment level, which taken in conjunction with age would thus provide a measure of educability. Racial comparisons in average scores are graphically shown in Fig. 9.

Even with the elimination of the tests most directly affected by language, the average I. Q. of the children was much lower than that found by investigators in California. This we believe was due to the fact that even in our modified scale, language disability was still a factor. This point will be discussed later. Table 17 gives the scores of the racial groups, according to mental age and I. Q.s.

At nine years of age no very significant difference between the racial performance was observable, except that the Chinese girls were ahead of the other groups with an average I. Q. of 99. The Portuguese were lowest with an average of 90. Between the Japanese and Chinese boys' scores there was but little difference.

Again, at twelve years, there were no very significant differences between the Chinese, Japanese and Portuguese boys, the average I. Q.s being 85 for the Chinese, 82 for the Portuguese, 84 for the Japanese and the lowest, 80 for the Hawaiians. Nor at the fourteen year period was there any very marked differentiation. The Chinese boys were again in the lead with an I. Q. of 84, the Japanese boys scoring 80, and the Japanese girls being last with 78. Taking the median scores instead of the average as the basis of comparison then we find the Chinese boys are ahead of the Japanese at each period, but the margin of superiority is slight at two of these periods,—about three months of test score at nine and twelve years, rising to .82 of a year at fourteen years. A comparison of the girls' medians shows that the Chinese girls have the ad-

vantage at nine and fourteen years, the Japanese at twelve years, the racial differences being rather less than in the case of boys. Combining all the children of each race together regardless of age, the differences in average I. Q. are very slight, only three points separating the highest group from the lowest. Chinese boys and girls hold what advantage there is. (See Table 24.)

One very significant feature is the decrease in the I. Q. level from nine to fourteen years. This affects all the racial groups. If the I. Q. is constant then this drop should not occur unless we suppose that the nine-year children are on the whole brighter than either the twelve or fourteen year children, which is not likely to be the case. It is possible of course that mental development is slowing down with age, but this would hardly be the case as early as twelve years of age. The most likely explanation of this lowering of the I. Q. is that the tests become relatively more difficult the higher the age level.

The differences between the results obtained by Darsie in California and our own results with the Japanese in Hawaii are not marked. The median I. Q. for Californian Japanese children in rural districts was 87.6, for Hawaiian Japanese 85.1. Our average I. Q. is distinctly lower than the I. Q. of 90.2 found by Darsie for his whole group including both city and rural children, and very markedly below that obtained by him for the Japanese in large cities in California. These differences in score are, however, probably due to environmental factors, such as longer residence in America, etc. So far we have not then discovered any mental superiority of the Japanese over the Chinese which seems to be related to the Japanese superiority in brain capacity which we have already demonstrated. In fact, as far as learning capacity as measured by the Binet tests is concerned, the advantage lies with the Chinese. The Chinese who were inferior in

brain size at these ages are, if anything, superior in mentality.

It is possible, however, that there may be other differences in the test reactions which the statement of results in general, in terms of averages or medians, tends to conceal, and which further analysis of the results might bring to light. We accordingly divided the tests given into two categories, those which are more directly tests of native capacity and those which are affected most by school training or differences in life experience. This division is shown in Table 18.

TABLE 18

ANALYSIS OF BINET TESTS

Tests of Native Ability	Tests Most Affected by Training
VII—3 Repeat 5 digits	VII—2 Description of pictures
4 Repeat 3 digits backwards	VIII—2 Count from 20 to 0
6 Copy diamond	5 Definitions superior to use
IX—2 Weights	Alt. 1 Six coins
X—3 Repeat 4 digits backwards	Alt. 2 Dictation
4 Reading and report	IX—3 Make change
6 60 words	4 Stamps
Alt. 1 Repeat 6 digits	5 Sentence construction
XII—3 Designs	XII—4 Dissected sentences
Alt. 1 Repeat 5 digits backwards	5 Interpretation of pictures
XIV—2 Repeat 7 digits	XIV—3 President and king
XVI—4 Problem of enclosed boxes	4 Problems of fact
5 Repeat 6 digits backwards	5 Mental arithmetic
6 Code	XVI—2 Interpretation of fables

Taking equal numbers (35) of each race we have added up the total number of tests passed in each series of tests and have taken this number as the score of the group. This is of course treating the scale as a point-scale, giving

equal credit for every test passed. In tests dependent principally on native ability the Chinese boys excelled the Japanese by only a few points, third place being obtained by the Hawaiians, the Portuguese being last. The scores were—Chinese 745.5, Japanese 737, Hawaiians 714, Portuguese 703.5. However, when we consider the scores, not as a whole but for each group separately, an interesting situation is brought to light. At nine years of age the Hawaiians are easily first in total score, the Portuguese being last. The twelve and fourteen year groups of Hawaiians do not show at such advantage, and as a matter of fact have dropped back to last place. Hence it would appear again that the development in the part-Hawaiian group is precocious, in the Portuguese somewhat delayed.

As regards the tests affected more directly by environment the Chinese were superior, the Portuguese and the Japanese were approximately even, and the Hawaiians came last. The total scores were Chinese 848, Portuguese 818, Japanese 815 and Hawaiians 800. Again, a slight advantage is held by the Hawaiians at nine years, but the racial differences are not as distinct in this group of tests as in those more dependent on natural ability. The scores are given in Tables 19 and 20.

A further analysis of these results was undertaken to see what effect age or degree of maturity had on comparative scores, especially with regard to the children who passed tests at the higher levels of attainment. We have accordingly calculated the number of tests passed at twelve years or above and taken that as an index of the amount of superior ability in each group. In the tests affected most by environmental factors there were, as just mentioned, very slight differences in ability between the races at nine years, slight advantage being held by the Hawaiians. Taking into account the number of tests passed at the high chronological levels, the Chinese easily lead with

TABLE 19—ANALYSIS OF BINET TEST—Tests of Native Capacity

Age Group		VII—3 5 Digits	4 3 Digits Bkwd.	6 Diamond	IX—2 Weights	X—3 4 Digits Bkwd.	4 Reading and Report	6 60 Words	Alt. 1 6 Digits	XII—3 Designs	Alt. 1 5 Digits Bkwd.	XIV—2 7 Digits	XVI—4 Boxes	5 6 Digits Bkwd.	6 Code	Total above 9 years	Total above 10 years	Total All Tests
Japanese	9 yr.	28	30	34	16	21	15	7	8	10½	1	2				64½		172½
	12 yr.	33	35	35	31	29	30	22½	9	23½	7	3	2	1			36½	261
	14 yr.	33	35	35	32	31	31	30½	19	24	21	4	5	1	2		57	303½
																	93½	737
Chinese	9 yr.	29	29	35	11	14	15	7	10	12	3					61		165
	12 yr.	33	33	35	32	27	32	24	18	21½	11	8	1				41½	275½
	14 yr.	33	35	35	32	31	33	29	20	24	12	10	3	6	2		57	305
																	98½	745½
Portuguese	9 yr.	25	33	28	16	11	7	6½	14	4	2	2				47½		149½
	12 yr.	31	34	35	29	24	28	23½	18	15	8	5					28	250½
	14 yr.	35	33	35	32	28	32	28	27	21½	14	10	3	5			53½	303½
																	81½	703½
Hawaiian	9 yr.	28	31	34	15	17	16	12½	17	9½	2					74		182
	12 yr.	33	32	34	23	24	25	20½	16	19½	8	1	1	1			30½	238
	14 yr.	34	34	35	32	23	32	28	26	25	10	8	4	3			50	294
																	80½	714

TABLE 20—ANALYSIS OF BINET TESTS—II. Tests Affected by Environment

Age Group	VII—Pictures	VII—2 Count bkwd.	5 Definitions	Alt. 1 Coins	Alt. 2 Dictation	IX—3 Change	4 Stamps	5 Sentence con.	XII—4 Dissected sentences	5 Picture inter.	XIV—3 Pres. and king	4 Prob. of fact	5 Mental arith.	XVI—2 Fables	Total above 8 yrs.	Total above 10 yrs.	Total—all tests
Japanese 9 yr.	25	27	27	34	32	17	23	8	1	1					50		195
12 yr.	35	35	35	35	35	33	35	29	5	12	2	3	2			24	296
14 yr.	35	35	34	35	35	34	34	33	12	13	11	3	9	1		49	324
																73	815
Chinese 9 yr.	32	27	26	32	31	15	19	13		1					48		196
12 yr.	35	35	34	35	35	34	31	32	8	13	5	0	6	2		34	305
14 yr.	35	35	33	35	35	35	35	33	17	19	11	1	15	8		71	347
																105	848
Portuguese 9 yr.	31	29	25	30	28	18	18	14		2					52		195
12 yr.	35	34	34	35	34	34	35	32	8	6	2	4	2			22	295
14 yr.	34	35	35	35	35	33	33	34	14	15½	3	8	10	4		54	328
																76	818
Hawaiian 9 yr.	34	29	27	30	29	16	23	11							50		199
12 yr.	35	33	30	35	35	32	33	29	3	5	1	0	2			11	273
14 yr.	35	35	35	35	35	32	34	34	13	16	7	4	9	4		53	328
																64	800

105, the Portuguese are second with 76, the Japanese third with 73, and the Hawaiians last with 64. The favourable position of the Hawaiians at nine years is therefore not maintained at twelve years or at fourteen years.

Considering the tests of native ability in the same way, the same racial tendencies are observable but to a more marked degree. At nine years of age more tests above their chronological level were passed by the Hawaiians than by any other group, their score being 74, the Japanese being next with 64.5, the Chinese next with 61 and the Portuguese scoring last with 47.5. In other words superior ability is more common in the Hawaiians at this age level. Taking the records of the twelve and fourteen year children together we find the Chinese have moved up into first place with a score of 98.5, the Japanese are second with 93.5, while the Portuguese are third with 81.5, the Hawaiians being very close with 80.5.

Here again there would seem to be evidence of the early maturing of the Hawaiian or part-Hawaiian group. This early development with subsequent slowing down is evidently a characteristic of this branch of the Polynesian peoples, just as it has been recorded for other native races and would seem to be additional disproof of Boas'[1] contention, who, basing his argument on the observation that "children whose development has been accelerated will reach the adult stage early, but nevertheless the total amount of their growth will be relatively great," states that mental growth follows analogous laws and further that "we have not even evidence that would prove that a shorter period of development must be unfavourable in its results."

Turning back to the average I. Q. in the tests as a whole, the significant drop at twelve and fourteen years in each race certainly indicates that the tests are too dif-

[1]Boas, Franz—The Mind of Primitive Man, p. 48.

PURE HAWAIIAN GIRL
(Photo by R. J. Baker)

PURE HAWAIIAN BOY
(Photo by R. J. Baker)

ficult for these children. Some at least of the tests too are affected by acquaintance with the language and other environmental factors. It may be possible that with a more favourable system of scoring more significant racial differences might appear.

It has been known that a limited series of tests carefully selected from the whole scale will give a test age result very closely approximating that obtained from the full series. Such a brief scale was worked out by Doll[2] and found to correlate .92 with the main scale. By selecting one test from each year and giving a year's credit for success in each test, Porteus[3] found that a very good diagnostic measure of the subject's native ability could be obtained. Running upon somewhat similar lines a series has been chosen upon which may be founded a diagnostic score which is, in all probability, a better measure of native capacity than the full scale itself, at least for children from non-English speaking homes. The tests selected for the lower years are "patience," drawing the diamond, repeating five digits, giving correct change in three simple money operations, arranging weights in correct order, repeating five digits backwards from memory and giving sixty words in three minutes. Five years in test age is allotted for the first success in any of these tests and an additional year's credit is given for each additional success. It will be seen that considering the narrow limits the choice of tests is such as to give a fairly balanced scale. Two are tests of memory, two (weights and "patience")[4]

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[2] Doll, E. A.—A Brief Binet-Simon Scale. Psych. Clinic, Dec. 1917—Jan. 1918.

[3] Porteus, S. D.—Condensed Guide to the Binet Test, Pub. of Training School at Vineland, N. J. No. 19.

[4] In the weights test the problem is for the child to arrange five cubes of wood which look the same but weigh respectively 3, 6, 9, 12 and 15 grams. In "patience" the child fits together two halves of a visiting card which has been cut diagonally, so as to reproduce the original form of the card.

are tests of practical judgment; the giving of change and drawing the diamond are dependent on experience but not wholly on school training and only one (giving sixty words in three minutes) has to do with language and it only occurs at an 11-year level where language disability will have a lessened effect, so that success in the test is likely to be dependent more on speed of association than size of vocabulary.

From twelve years onwards there are 11 tests but at four age levels there are alternative tests, credit being given for success in either of the paired tests but not in both. The vocabulary tests are included in recognition of the principle of the development of specific abilities. In other words, obtaining full credit for a fourteen year vocabulary is not dependent upon the possession of arithmetical ability, and conversely full credit is given independently for the latter ability. It was a much more difficult task to obtain a well balanced selection of tests above the eleven-year level. Three tests only—memory for designs, memory for digits backwards and the "code" test are unaffected by school experience, and only the first of these three can be considered remotely related to any practical abilities. Language facility affects five tests—interpretation of pictures, the three vocabulary tests, and the naming of differences between a president and king. The last named test and the mental arithmetic tests are most affected by school experience and arithmetical reasoning enters into the "problem of enclosed boxes." As a matter of fact there are no tests of practical ability in the Binet at these levels to counteract the too-literary trend of the scale but the easier scoring makes the tests fairer in their general verdict. The list of tests chosen as having the greatest diagnostic significance, and the allotted scoring are given in Table 21.

At first sight the easy scoring would appear to make a

TABLE 21

DIAGNOSTIC SCORE FROM BINET TEST—VINELAND REVISION

V	—5	Patience	5 yrs.
VII	—3	Repeat 5 digits	6 yrs.
VII	—6	Diamond	7 yrs.
IX	—2	Weights	8 yrs.
IX	—3	Change	9 yrs.
X	—3	Repeat 4 digits backwards	10 yrs.
X	—6	Sixty Words	11 yrs.
XII	—1	Vocabulary	12 yrs.
XII	—3	Designs	
XII	—5	Interpretation of Pictures	13 yrs.
XII	—Alt. 1	Repeat 5 digits backwards	14 yrs.
XIV	—1	Vocabulary	15 yrs.
XIV	—5	Mental Arithmetic	
XIV	—3	President and King	16 yrs.
XVI	—1	Vocabulary	17 yrs.
XVI	—4	Boxes	
XVIII	—1	Vocabulary	18 yrs.
XVI	—6	Code	

great deal of difference to the test ages of defectives, but as a matter of fact the changes do not affect their scores greatly. Twenty-two defectives whose "mental ages" by the full Binet scale were between eight and nine years scored only eight years by the diagnostic series. Twenty-three defectives testing nine to ten years per Binet, scored barely ten years; another group testing from ten to eleven years scored exactly eleven years. This means that by using this series, high grade defectives gain on the average only half a year of Binet score at two test age levels. These results are set out in Table 22.

TABLE 22

DIAGNOSTIC SCORE FOR DEFECTIVES

65 Cases

No. Cases	Group	Average Binet	Average Diagnostic Score
22	8-9 yrs. Binet Age	8.39	8.0
23	9-10 yrs. Binet Age	9.49	10.04
9	10-11 yrs. Binet Age	10.44	11.0
11	11 yrs. and above	11.81	11.73

Applying these diagnostic tests to the racial groups we find that the Japanese at nine years had an average I. Q. of 92.5, at twelve years 93, and at fourteen years 93. The Chinese boys' average I. Q.s at these three periods were 92, 95.5 and 94—a slight advantage over the Japanese. The Portuguese I. Q.s are similarly constant but at a lower level than either of the Oriental groups (88, 89 and 88). The Hawaiians alone show a significant drop with chronological age. Their average I. Q. at nine years is 92, at twelve years 85.5 and at fourteen years 88. These results are shown in Table 23.

TABLE 23

DIAGNOSTIC SCORE

Age	Nationality	No. Cases	Average Diag. Score	Av. I. Q.
9 yrs.	Japanese Boys	42	8.75	92.5
	Chinese Boys	35	8.7	92
	Portuguese Boys	35	8.29	88
	Hawaiian Boys	35	8.66	92
	Japanese Girls	35	8.94	95
	Chinese Girls	36	9.62	102
12 yrs.	Japanese Boys	37	11.62	93
	Chinese Boys	37	11.9	95.5
	Portuguese Boys	35	11.03	89
	Hawaiian Boys	35	10.66	85.5
	Japanese Girls	39	10.98	88
	Chinese Girls	36	10.64	85.5
14 yrs.	Japanese Boys	39	13.0	93
	Chinese Boys	35	13.2	94
	Portuguese Boys	35	12.34	88
	Hawaiian Boys	35	12.37	88
	Japanese Girls	37	12.22	87
	Chinese Girls	33	12.71	91

If it be true that I. Q. levels tend to remain constant then this series would appear to be a far fairer measure of ability of these races than the full Binet. As such however, it does not show any marked differences between the Japanese and Chinese except a very slight advantage of the latter at twelve and fourteen years. The Hawaiians'

advantage over the Portuguese at nine years is compensated for by a drop in their average at twelve years. Combining all age groups the figures are as given in Table 24.

TABLE 24

	No. Cases	Binet Av. I. Q.	Diagnostic Score Av. I. Q.
Japanese Boys	118	85.2	93.
Chinese Boys	107	87.1	93.9
Portuguese Boys	105	84.6	89.3
Hawaiian Boys	105	84.3	88.5
Japanese Girls	111	84.1	89.9
Chinese Girls	105	87.5	92.9

Another means of comparing the school learning capacity of the races is by taking their educational ratio which is the relation of their age to the standard age for their grade. This may be taken as 7 years for the first grade, 8 years for the second, 9 years for the third and so on. Hence a child in the third grade not less than 8 years 6 months of age or more than 9 years 6 months would be considered to have made normal school progress and would have an educational ratio of 100. It is assumed that the child enters school at 6 years of age and that 18 months may be allowed for the first grade and thereafter he is expected to progress through the grades at yearly intervals. As a matter of fact this expectation is on the average seldom fulfilled. The amount of educational retardation is considerably greater than this. Children miss schooling or repeat grades to such a degree that many do not reach the eighth grade. The drop in the educational ratio therefore does not necessarily mean any progressive disability to cope with school work, but possibly that the standard set as regards the age limits of the upper grades is too severe.

Reference to Table 25 shows that at nine years Chinese, Japanese, and Hawaiians are approximately equal, the

TABLE 25

EDUCATIONAL RATIO OF RACIAL GROUPS

Age	No. Cases	Race	Educational Ratio
9 yrs.	42	Japanese Boys	93.3
	35	Chinese Boys	91.8
	35	Portuguese Boys	88.4
	35	Hawaiian Boys	91.4
12 yrs.	37	Japanese Boys	87.4
	37	Chinese Boys	89.3
	35	Portuguese Boys	86.5
	35	Hawaiian Boys	85
14 yrs.	39	Japanese Boys	85
	35	Chinese Boys	85.3
	35	Portuguese Boys	84.2
	35	Hawaiian Boys	82.9

Note: Educational Ratio equals $\frac{\text{Standard Age for Grade}}{\text{Chron. Age}}$

Portuguese lagging somewhat behind. The differences in the ratios are not large, but as Burt[5] points out a small difference in such a thing as an educational ratio is apt to be significant. Teachers tend to promote the over-age children and the very young are often kept back, hence the range of variation in educational standing is likely to be much less than that for mental ratio or intelligence quotient.

At twelve years of age the Chinese have taken first place with an educational ratio of 89.3 as against the Japanese 87.4. The Hawaiians have made a very significant drop from 91.4 at nine years to 85 at twelve years. The Portuguese though low at 9 years drop still lower at the later period. These figures indicate again that Hawaiian mental development does not keep up its earlier rate and tends to become retarded at or about a twelve year level. The figures for the fourteen year group show the Japanese and Chinese approximately level, the Hawaiians again occupying last place.

[5] Burt, Cyril—Mental and Scholastic Tests p. 176.

These results would appear to indicate very decidedly that either the school period should be lengthened or that the work undertaken should be lessened in content from at least the fourth grade onwards. The fact that children are so over-age for their grade would surely mean that those who are retarded are clogging the middle and lower grades while the upper grades have but a thin enrollment. It is generally agreed that this repetition of grades by children who cannot keep up is a wasteful educational procedure, principally because so much of the teacher's time is spent with the laggards that those who can progress are left without a fair amount of attention. The situation undoubtedly merits consideration, but to discuss the remedies proper to the condition is somewhat outside our present purposes.

While the figures for educational ratio are under consideration we would like to point out the relative improvement of the Chinese twelve-year group in both educational ratio and in average intelligence quotient. It will be seen from the tables that the relative position of the Chinese and Japanese changes materially at this period, especially in educational ratio. This may indicate a spurt in development in Chinese at twelve years, and if this is so it would provide an interesting parallel with the well known physical and, to some extent, mental acceleration that occurs in females at this age.

In order to obtain racial comparisons from a different angle the Porteus Form and Assembling test was applied to large groups. For the major part of these results we are indebted to Miss Catton, psychological assistant at the University Clinic. This test combines the features of a form board and a logical relations test. In the first part of the test the problem is to match as quickly as possible pictures of twenty-two parts of five common objects such as a hammer, wheelbarrow, knife, coffee-pot, and chair.

The next part of the problem is to select as quickly as possible the two parts that make up the wheelbarrow, the three parts of the knife, the four parts of the coffee-pot, and the eleven parts of the chair. The score is the total time for all these operations in seconds, taken with a stop watch.

The test is primarily a test of mental alertness as shown in speed of recognition of forms either singly or in combination with other forms. Like most mental alertness tests it has its main value in the lower levels of attainment, from about seven to fourteen years of age. Above this

TABLE 26

STANDARDIZATION OF FORM AND ASSEMBLING TEST

Time (Seconds) Required	Test Age
400 and over	5 yrs.
340-400 seconds	6 yrs.
290-339 seconds	7 yrs.
245-289 seconds	8 yrs.
215-244 seconds	9 yrs.
185-214 seconds	10 yrs.
162-184 seconds	11 yrs.
145-161 seconds	12 yrs.
128-144 seconds	13 yrs.
112-127 seconds	14 yrs.
97-111 seconds	15 yrs.
85-96 seconds	16 yrs.
75-84 seconds	17 yrs.
65-74 seconds	18 yrs.
Below 65 seconds	19 yrs.

latter age success in the test has little or no relation to school learning capacity although it is evidently related to test-solving abilities. When the test was applied to University students it did not correlate at all with the students' college marks but yet with the Thorndike High School graduate test it correlated .33. Evidently there is some ability examined both by this test and the Thorndike which does not enter to any extent into school proficiency.

At what might be termed diagnostic levels of intel-

ligence i. e. at social sufficiency levels, this test correlates well with industrial and social abilities. Apparently this form of mental alertness is an important factor in trainability in semi-skilled tasks. It was significant that the boy who got the best score in the test at the McKinley High School won a competition against all comers for alertness in military drill. Evidently the qualities examined by the test would be valuable in such situations.

The results expressed as an "intelligence" quotient (relation of score to age) are very interesting in the fact that the male Hawaiian group leads the other nationalities. The average I. Q.s were as follows:—

TABLE 27

FORM AND ASSEMBLING TEST RESULTS

	No. Cases	Males	No. Cases	Females
Hawaiians	268	102.4	263	94.2
Chinese	118	102.	158	95.
Japanese	207	101.	131	101.6
Americans	724	100.8	795	96.8
Portuguese	102	91.6	143	92.3

This advantage of the Hawaiians is quite noteworthy, especially in view of the position of the Portuguese group with whom their attainment in other tests has been more apt to agree. The position of American boys is also interesting. Sex differences are not constant, the advantage being with the boys in certain races and with the girls in others. The results are given in detail in Table 27.

It is noteworthy that improvement in score with age tends to go on more constantly for the American boys than any other race. Their test age score goes up steadily from thirteen years to seventeen years. The Hawaiian group improve their average score up to sixteen years, but the Japanese and Chinese appear to reach their peak of performance at an earlier period. The Japanese reach

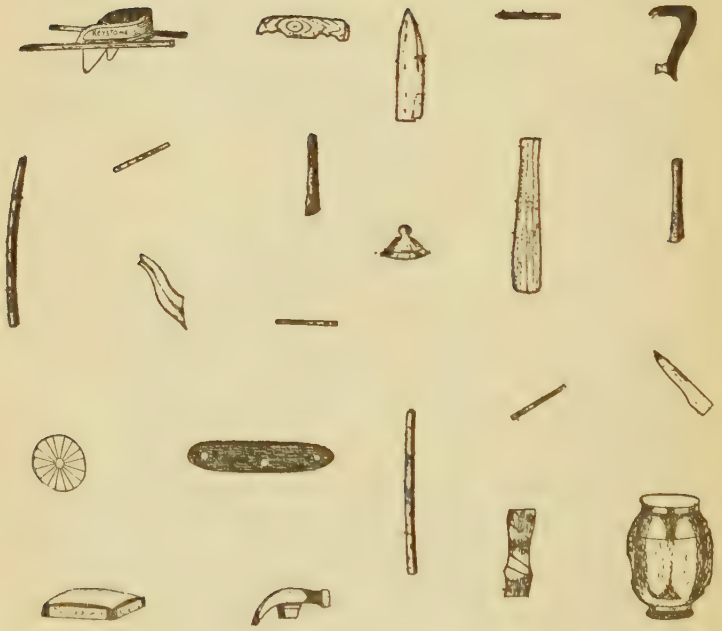

FIGURE 10
Form and Assembling Test.

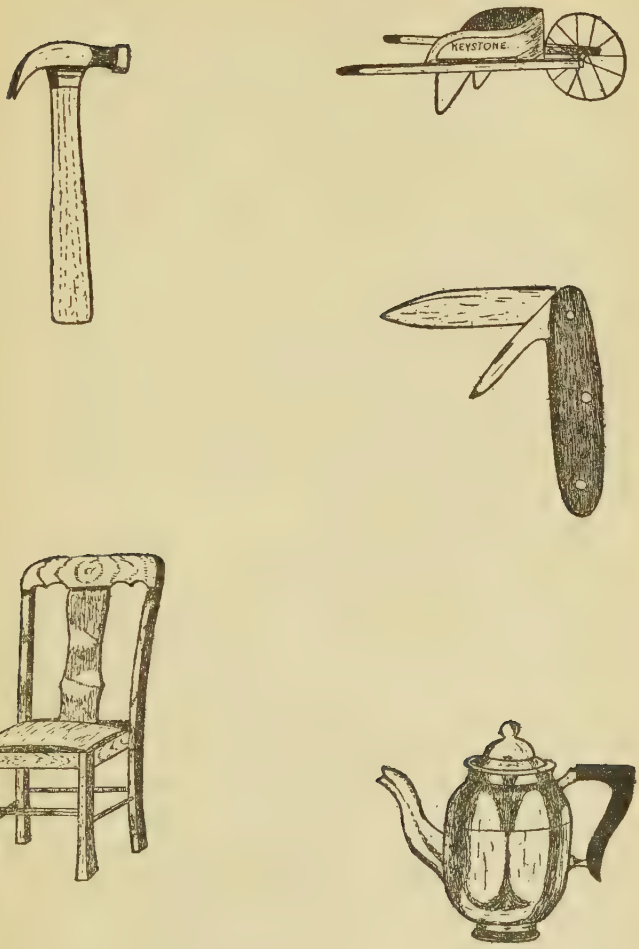

FIGURE 11
Form and Assembling Test.

their highest average at seventeen years, but this seems to be merely a chance result due to the small number of cases.

In order to get a measure of the effect of social grade, we compared a group of 257 white boys attending a preparatory college at Punahou in Hawaii with the group of 724 boys attending the public schools at Vineland.[6] The average I. Q. of the Punahou boys was 118.5 and the average of the Vineland boys 100.8. This superiority of the Punahou boys may not however, be due to social grade entirely but possibly the race factor enters here also. Vineland schools have a large proportion of Jewish and Italian children in attendance and these may have affected the score. Separating the Italian and Jewish results from two of the largest age groups, however, made very little difference to the average score. A more likely explanation of the Punahou boys' advantage lies in the fact that their proportion of young bright children with high I. Q.s was considerably greater.

The results as summarized indicated that there is a form of mental alertness, shown by quickness of perception of form and ready recognition of the relation of parts of common objects, which is associated with test-solving but not with scholastic progress. This ability reaches its maximum about 15 years of age. Differences in degree of this ability are more dependent upon social grade than upon sex and race. At lower levels of industrial and social status the capacities tested by the form and assembling test are important factors in success. In the appraisement of these factors the test has a value quite equal if not superior to other form-board and construction tests.

Through the courtesy of Dr. Hoag we are able to quote from some unpublished results of an investigation under-

[6] For the Punahou results we are indebted to Miss Barnhard of Oahu College. Mr. L. N. Yepsen, assistant psychologist at the Training School collected the Vineland data.

taken by him in Hawaii, using various group tests, including the National Intelligence Test, the Morgan Test, and the Indiana Survey Test. These are all well known group tests but because of their dependence on language and the limited vocabulary of the subjects and the different life experiences of the children tested, they must be considered as of very partial value in their demonstration of racial standing. Like the Binet and the army Alpha, they probably give a better index of school proficiency than anything else. Even as such, the verdict applies only to the present status of these racial groups and there is no certainty that with better acquaintance with the language the order of standing may not change.

Dr. Hoag's table shows that the average I. Q. of the American group of 442 cases which includes the pupils of an excellent preparatory college is 100.7. The Chinese came next with an average of about 87, closely followed by the Koreans with about 84. The Japanese, Portuguese and Hawaiians are grouped very closely together a little below that level, with the Filipinos and Porto Ricans distinctly lower. These results accord very well with those obtained by other tests of this nature and provide additional evidence of the somewhat superior learning capacity of the Chinese. It is noteworthy that the highest scores obtained by any of these children were made by an American and a Chinese. Another notable feature is the greater variability of the American group as shown by the average deviation; Japanese variability was not so marked. An extremely interesting feature about Dr. Hoag's figures is that the order of racial standing in the group tests is practically the same order that Dr. Stevenson Smith found for the races as regards their relative school advancement. Quite evidently the group tests are a good measure of school proficiency. Dr. Hoag's results are given in Table 28.

TABLE 28

I. Q. S. OF RACIAL GROUPS OF HAWAIIAN PUBLIC SCHOOL CHILDREN

4,663 Cases

(Figures from Unpublished Data of Dr. Ernest B. Hoag)

No. Cases	Nationality	Av. I. Q. (Combined Tests)*
442	American	100.73
26	British	100.
17	German	88.97
727	Chinese	86.89
95	Korean	83.82
2141	Japanese	81.33
784	Portuguese	80.64
333	Hawaiian	80.58
14	Russian	80.30
29	Filipino	74.23
15	Spanish	73.17
40	Porto Rican	72.38

*(*National Intelligence, Morgan Test, and Indiana Mental Survey*).

In view of the beliefs current in the islands that the Chinese-Hawaiian mixtures represent the best mixed type of people, it is interesting to observe that as regards Dr. Hoag's results this is not borne out by the test performance. The average I. Q. of the Caucasian-Hawaiian mixtures was 84.62 while the Chinese-Hawaiian average 81.2. The Portuguese-Hawaiians (though the numbers are few) equalled in average I. Q. the Oriental-Hawaiian group. The excellent record of the part-Hawaiian group in the form and assembling test has already been mentioned. As this group contains many Chinese-Hawaiians this fact is noteworthy as indicating superior mental alertness in these children.

Summary

In closing this chapter we should like to summarize the results of the application of the tests described in this

section. As regards Binet "intelligent quotients" there are no very significant racial differences apparent, the total range of performance between the highest and lowest group being 9 points at nine years, 5 points at twelve years, and 6 points at fourteen years. The advantage fluctuates from race to race at different periods, the final superiority resting apparently with the Chinese.

Dividing the individual tests of the Binet scale into two groups—those dependent more closely on native ability and those affected most by environment—we found that a slight advantage was enjoyed by the Chinese as regards the former group, with a more marked advantage as regards tests affected by the environmental factor. This may be due to the longer establishment of the Chinese in Hawaii.

Taking into account the occurrence of superior ability the advantage was again with the Chinese but as before it was less marked in tests dependent on native ability. Throughout these comparisons the precocity of the younger Hawaiian children is indicated by their good standing at nine years and their inability to retain their advantage in the later years.

Tests of diagnostic significance selected from the full scale and scored in such a way as to give full credit for specific abilities above a 12 year level did not indicate any marked advantage for any single racial group. The Oriental groups were however, considerably ahead of the Portuguese. However the range of differences in performance was not great. Similarly the comparisons of the educational ratios of the children did not reveal any marked racial differences. The tendency of the Hawaiian group to rank well in the lower years and to show an increased retardation at a later period was again a feature.

Taking into account the results of another form of test —the performance test—results by the Form and As-

sembling test do not indicate wide differences in ability in the races. In this test of mental alertness the Hawaiians had an excellent record.

Summing up all this work we may say that the general results do not indicate that we have yet found the psychological basis of the observed differences in social adaptability of which we have given evidence in the first section. Nor have we yet found the mental correlates for the demonstrated advantage of the Japanese in average brain capacity. If we were to take the facts of the school progress of the children, or if we were to examine them by the so-called tests of general intelligence, we should not be able to make any predictions regarding their potential social adaptability except perhaps, as regards primary school proficiency in the Chinese. We would obtain no hint as to the advantages which the Japanese undoubtedly hold in social adjustments. Yet the value of mental measurements, whether for the individual or for the racial group, is their predictive value. It is evident that we must change our viewpoint somewhat or look further afield for the inherent differences that underlie social adaptability.

Part VI

PSYCHOSYNERGIC TRAITS OF RACES

Chapter XVI

THE TESTING PROGRAM

If we admit that intelligence has been by far the greatest factor in man's progress, then surely any working definition of intelligence that we may frame must be made wide enough to include an adequate reference to the traits that brought about that progress in the very many centuries when mental tests and schools and books were not. Our present civilization cannot be regarded as the apex of a pyramid, for the pyramid cannot be made higher, but rather as the growing or apical point of a plant. Even though we may be persuaded of the constancy of the intelligence quotient in the individual, we may not be at all certain of it in the race. To state our definition of intelligence in terms of I. Q. level would be not at all true or helpful, and would in fact be putting far too scholastic a point on the matter, as if mass progress had been entirely a growth in the one direction. Yet that is exactly the kind of definition that the present viewpoint of many writers would lead us to.

The unwarranted conclusions that have been drawn from the army and other mental tests are due to the confusion of ideas as to what intelligence really is. The most commonly quoted definition is that of Stern who says: "Intelligence is the general capacity of an individual consciously to adjust his thinking to new requirements. It is general adaptability to new problems and conditions of life." This definition is frequently condensed somewhat and given as "general mental adaptability to new problems and conditions of life." It has been adversely criti-

cized on various grounds; that it does not exclude instinctive behavior such as animals and insects display, but which is not usually considered to have the same mental basis as human behavior; that it furnishes no clue for judging the value of the adaptation—in other words, an individual who is successful in adjusting himself to relatively simple situations is not indicating thereby the same degree of intelligence as the man whose adaptations are on a higher level of performance, involving the more complex mental processes such as abstract thought. Other criticisms point out that the emphasis on the newness of the problem is too great, or that the definition should make more direct reference to learning capacity. There are of course, other definitions. For Thorndike, intelligence is the power to make good responses to situations, for Burt it is "all-round inborn mental efficiency."

Recognizing that Stern's definition is a good working definition but that some attempt should be made to meet the more important objections, Porteus[1] has proposed a modification which is in such form as to make the "all-roundness" or the general character of the adaptability less material to the definition.[2] Intelligence as thus defined would be simply "progressive mental adaptability."

Besides its conciseness there are several advantages in this form of the definition. To begin with, it embodies the idea of growth. So long as adaptations are progressive, then intelligence has not reached its final limit. We can only speculate as to when this limit is reached on the average; but when a man's mind is closed to new truths, when he has become set in his ideas, when the period has

[1] Porteus, S. D.—Temperament and Mentality in Maturity Sex and Race.

[2] To insist that intelligence is **general** mental adaptability in the sense that the adaptability must be shown equally to all kinds and classes of situations is to assume a closer correlation between mental capacities than the facts warrant.

arrived when he no longer reaches out for new mental pabulum and has begun to deal with all situations by rote and precept, then his progressive adaptability has come to a standstill, his intelligence has ceased to develop. Thus the definition covers lateral as well as vertical growth, that ripening and maturing of judgment which gives such increased success in dealing with men and affairs as well as with abstract speculations which we recognize as the mark of the fully developed mind. We cannot believe that this greater adaptability is due only to the multiplication of experience, or that it has anything in it akin to that automatic improvement that comes with the constant repetition of muscular movements, such as in learning to typewrite. Surely those wide differences in balanced judgment, in clearness of insight into men's motives, in critical self appraisement, which distinguish mature from youthful reactions are not wholly due to practice in dealing with similar situations, but rather to a wider ability to abstract the kernels of experience, and to adjust to situations in general. Why should we consider an increase in ability to deal with words at twelve years compared with the ability at ten years as an evidence of mental growth, and not so consider the increased ability to deal with men and affairs which comes with maturity? Nor does this increased mental power necessarily come through the multiplication of experiences. The fool who sets forth to travel comes home nothing but a travelled fool; the narrow-minded man may range through the world of books without broadening his vision. As a matter of fact the greater richness of experience means nothing unless we bring to it a greater assimilative power. To say that intelligence, except in the very limited sense of scholastic proficiency, has reached the peak of development at fourteen or even sixteen years of age, even in the average man, would seem to be accepting an

unsafe, unproved, and ridiculous hypothesis. There are probably wide differences in capacity between the youth at sixteen years and the same individual at thirty.

A second advantage of the modified definition is that placing the emphasis on the newness of the adaptation rather than the newness of the situation makes the definition applicable to racial as well as to individual intelligence. To speak of new problems for the race seems somewhat beside the mark. The history of man is a story of constant struggle to adjust himself to the old, old problems of self preservation through the attainment of adequate food, warmth and protection. His main inventions have been aimed at securing this comfort and safety, and human progress has in large part consisted of ability to make new or progressive adaptations to these ends. Spiritual progress too has depended upon man's ability to take the next step in analysis, to see truth in new relations, and implies also "progressive mental adaptability."

Instinctive adaptations, automatic responses, are excluded by the modified definition. The bird in building its nest and the bee its honey-comb, is making an adequate adaptation to what is to each individual bird or bee a new problem. But the capacity has reached its limit of growth, is not carried over to similar situations, is not progressive.

Using this definition as a working basis we can more readily make a comparison of the intelligence of the races on a basis of present and past achievements. Those who consider that the present cultural level of the races and peoples of earth truly represents their intelligence status are frequently answered by the objection that history is a line and not a point, and that it is unfair to take the present as the basis of comparison. They point out that the Chinese, for instance, two thousand years ago occupied a

cultural position much superior to that of the white race whose civilization is dominant today. Arguing that what has been may be again, they say that our lead in the future may be lost and our place in the van occupied by some other people. But whatever the facts regarding past levels of achievement, we cannot say that the Chinese or the Peruvians or the Egyptians have had the progressive adaptability of our own race. The fact that these ancient civilizations were once so flourishing argues that they reached a plateau of achievement at which point their development ceased to be progressive. As specific instances of this we may take the invention of printing accredited to the Chinese. What possible chance was there of adapting this invention to its fullest use while the Chinese alphabet with its thousands of characters remained such a cumbersome medium of expression? The adaptability that was shown failed to progress to new levels and invention was robbed of its fruits. In the same way gunpowder, also invented by the Chinese, remained little better than a toy in their hands. The inventiveness of the Chinese was thus stultified by the inability to see the trends of their discoveries. Lack of progress in the art of war on the one hand and physical irresolution on the other, kept this huge nation ceaselessly disturbed by the threat of invasion, hence the building of that huge twelve hundred mile wall, the greatest monument in the world to human industry and at the same time to a people's timidity and unforeseeing faith in bricks and mortar. Courage, determination, and capacity for organization in a nation as a whole are just as much elements in its progressive adaptability to national problems as is inventive skill; for without these, racial progress stood still or culture declined. Capacity for doing must keep pace with capacity for thinking. In our philosophical speculations we are apt to forget that this is a hard,

work-a-day, material world where there would be little time or leisure for philosophy or science unless the common people, the body of the nation, stands ready with out-stretched hands to seize on the discoveries of science and put them to practical use in solving the elemental problems of existence and self-preservation for themselves and the scientists alike. It is the receptivity of the multitude as well as the inspiration of the leaders that counts. It is this unreadiness of the mass to receive that is meant when we say that some men are "born out of time." We might just as truly say that great men are sometimes born out of place or race. One does not hear on any hand the fact that the greatest teacher of all time was born in Bethlehem adduced as proof of the racial superiority of the Jews. As a matter of fact the two men who most of all in their attitudes foreshadowed the two greatest movements of the future, were members of the same race and generation. The one was Jesus Christ who typified that positive belief, that assertive faith which has done so much to stabilize our civilization, and the other was "doubting Thomas" who typified that scientific scepticism without which no progress in religious belief or no new faith would be possible. Yet neither Christianity nor Protestantism was developed in the race that gave them birth; the battle between faith and reason was fought out in different climes and by men of a different race. This is really what is meant when we say that great men do not belong to any race but to all mankind. Like the meteors, they flash out of any quarter of the firmament.

Racial progress as we see it consists not only in the advance of the leaders but also of the moving forward of the rank and file. It may be described as the bringing of the fruits of genius within the reach or comprehension of the common people. In the last resort it will not be

the nation that gives birth to the new faith, but the one that takes it from the hands of its founders and lives it, not the nation from which comes the great inventions but the people which takes them and puts them to use, not the nation alone that produces the masterpieces of genius but the people that comes nearest to their full appreciation that will stand first in the van of progress. In short we would no longer interpret racial progress in terms of the accomplishment of the individual but of the race. The older civilizations undoubtedly grew too much at the top, and the neglect to foster the homely rugged virtues of the common stem that should have sheered up the superstructure brought about their decay and fall.

In considering the proposed definition of racial intelligence, it may be objected that it is impossible to gauge intelligence when it is thus expressed in terms of potentiality. The inferior race of today may be the leaders of the civilization of tomorrow. But just as in the earth today there are no vast areas that remain uncharted and their possibilities of development unknown, so too in the mass of mankind there are no great nations to which opportunity for development has not come. The overflow of culture from group to group and from race to race is freer than before the age of printing and easy transportation. The one outstanding example of recently discovered racial ability is in the case of the Japanese; but the rapidity of their progress merely kept pace with the rapid development of the time. There is no other nation to be suddenly awakened by the touch of Western ideas. The material progress of the last century has been so wide and all embracing that opportunity has been denied to none. At least we are safe in saying that Japan's opportunity was no greater than that of any other race, and that her progress is therefore proof of her greater adaptability.

One thing at least is certain, that the application of mental tests, such as those we discussed in earlier chapters, does not provide the key to Japanese progressive adaptability. If we assume that the average intellectual calibre of a racial group to any marked degree conditions its social progress, then we must conclude that our measures of intellectuality are very inadequate estimates, or as an alternative that the national characteristics which made Japanese progress possible lie outside the field of intellectuality.

Coming back to the question of the measurement of intelligence in the individual we may restate our conception of the factors of progressive mental adaptability and their varying prominence at different periods of life, with a view to summing up the value and limitations of our existing testing methods.

The early period of childhood is one in which all-round learning capacity comes most into play. The child, in this period, must become familiar with weights and measures, the value of coins, the division of time, simple money operations, spelling and reading, facts regarding the properties and uses of objects, location of places, etc. His ability to assimilate all this knowledge is dependent upon certain basic abilities, mainly memory. These abilities cannot be increased by training or education, so that once they are adequately measured the ability of the individual to deal with facts of this kind is fairly accurately determined for all time. Even at an early age the probable school-proficiency of the individual can be predicted.

At the same time that learning capacity is increasing there is proceeding a corresponding development of the psychosynergic traits which include emotional, volitional, and temperamental characteristics. But this psychosynergic development differs from growth in learning capacity in as much as it apparently continues somewhat be-

yond the period when learning capacity has ceased to increase. Apparently, also, these traits are much more modifiable by training and experience than is learning capacity, the limits for which seem to be set much more definitely by inheritance. Grave temperamental deficiencies, especially if apparent at an early age seem, however, almost ineradicable; at least long years of training are required to modify them significantly. However, the important point is that while by taking thought we cannot add a cubit to our intellectual stature we can increase our stability, our resolution and we can strengthen our tendency to use foresight and to resist suggestion, and may even become less moody or excitable. Our belief is that it is development in these last named respects which constitutes the important difference between adulthood and youth and this seems to accord with the common sense viewpoint which we find reflected in law. The youth of sixteen years is not held responsible for his acts and both law and custom tend to surround individuals at this age with certain restrictions and safeguards, as for example the "age of consent" in females. These indicate clearly enough that, from the viewpoint of every-day experience, the individual has not reached the peak of his powers and is still immature and developing. We would also contend that this progress towards maturity is a real development and is not dependent entirely upon the multiplication of life-experiences in the individual.

Since these psychosynergic traits seem more amenable to circumstance than does learning capacity it may make our testing program in this direction more difficult. But as we have previously indicated very grave defects are seldom eradicated. Hence our tests for these traits have been more successful in picking out the inefficient than grading the efficient. There is however, in all probability a high correlation between success in tests during childhood and

potential adult development in these traits. In other words tests of these traits have a predictive value.

As a third factor in progressive mental adaptability we find skill or special aptitudes. The period of greatest influence for these aptitudes is the post-adolescent period. These special abilities have of course, an inherent basis, but are developed through experience. There does not seem any adequate reason for supposing that bounds for the continued growth of these abilities should be placed before perhaps middle life. Ultimately of course, we come to a standstill in the development of artistic, mechanical, or literary skill. In other words it is not experience entirely which determines the degree of development along these lines, otherwise with the multiplication of experience we should continue to develop. "Thus far and no farther" is an edict set by our nature, and no training will take us beyond that point. For our comfort we may feel that the chronological period of this cessation of growth may be placed well on in life, and that the saying—"Never too old to learn" is at least half-true.

If these views are correct, then our ideas of the value and limitations of our testing program must necessarily change. If the temperamental traits are modifiable up to adolescence, and special aptitudes continue to develop until a much later time, then it is obvious that a measure of intelligence that will give in childhood an adequate estimate of the potentialities of the individual, would seem unattainable. Our present scales do not give us more than a measure of school-proficiency. Our success in measuring temperamental traits is confined to the estimation of certain important deficiencies, and these tests are useful in application to the immature or to adults of possibly average levels but not beyond. In other words we can predict failure by their use much more readily

than the degree of success. We need objective measures of other, more positive qualities. If these were available then it is probable that we should be able to forecast the ultimate development with some degree of reliability. With regard to special aptitudes the case is still somewhat doubtful, but further experiments with scales of testing should also serve to indicate the possibilities of development along this line. Though achievement will never be accurately predictable we may make much better estimates of the future of individuals than by limiting our attention to learning capacity alone. In our present state of knowledge, a valid intelligence-quotient, that is to say one that will give a real measure of inherent progressive adaptability is not available. A keener analysis of the fundamental mental capacities underlying special aptitudes and a closer scrutiny of the trends and tendencies that result in character and temperamental make-up may lead us, however, much nearer the goal of prophecy than we are at present. In a well rounded analysis of personality, if the results of such a study can ever be indicated by a numerical index, it might possibly be found that this index of intelligence (in its widest sense) does not materially change in relation to age, or at least after about 14 years it would tend to remain a constant ratio. This then is the critical period for psychologists to fix their attention upon. An index of intelligence determined before this age would not be meaningful, and if obtained much later would be needless; for by that time both character and intellectuality would be thoroughly apparent.

Under these circumstances it is time that we gave up the unwarranted practice of speaking of a measured "mental age" or an "intelligence quotient", when all we mean is the person's relative score in certain partial measures of intelligence. We could continue the practice if we could agree on redefining mentality as one aspect of in-

telligence, but under the present conditions of considering that mental age is synonymous with intelligence it will not do. We should substitute for intelligence quotient the term "attainments quotient." If we wish to distinguish between attainments as measured by tests and attainments in terms of school achievements, then let us by all means do so, calling the one the test attainment quotient or T. A. Q. and the other the educational attainments quotient or E. A. Q. The present use of the term A. Q. to signify the relation between educational and test ratings should be given up as it implies that the present I. Q. is really a measure of the raw stuff of intelligence,—a most unwarranted assumption.

For the better estimation of the test-attainments quotient, we would advocate the further revision of tests of all-round learning capacity, with considerably less emphasis on tests of language facility and with more weight assigned to tests of practical judgment. In addition to these we should use such tests as are available for temperamental traits. These tests might be carried on to a fifteen year level, so that at twelve years the maximum quotient obtainable would be 15 divided by 12 or 125. With a properly balanced scale of tests, an individual who at 15 years of age could not attain a 12-year level or an A. Q. of 80, would be distinctly dull, while one who fell below an A. Q. of 70 (10½ years) would be almost certainly socially unadaptable and could be considered feebleminded.[3]

[3] Probably it would be best to give up the use of the word "feebleminded" substituting "social defective" as a blanket term, following it with a descriptive term indicating the cause of the deficiency. Under this plan we would have the following classification—Social defective, mentally inferior (or social defectives—idiot, imbecile or moron mentality); social defective, temperamentally inadequate (embracing the class of constitutional inferiors); social defective, psychopathic; social defective, psychotic; social defective, delinquent or criminal. The first obligation in diagnosis would be to determine

Beginning with twelve years of age or as much earlier as specific abilities can be measured (Terman begins the testing of vocabulary at eight years), we should apply along with our measures of all-round ability other scales which measure ability in definite directions. But in these scales ability should not be stated in terms of age but in terms of quality of response—very superior, superior, average, and the like. These ratings should be determined on a percentile basis, the necessary data being provided from the performance of widespread samplings of the population. The scales of special ability should take in literary, mathematical, artistic, and for vocational guidance, mechanical abilities, etc. These too, would be attainment scales. The question of whether to consider the ability as determining the interest or the interest the ability, would be beside the mark, for it would be neither ability nor interest that would be measured but the end result of both.

Coextensively with this testing program should proceed evaluation of the psychosynergic traits. For these traits adequate tests are at present lacking, although the Downey Will-Temperament scale seems to denote a promising beginning. As a suggestion we have offered our scheme of rating on the following seven traits—planning capacity and foresight, resolution, prudence, sociability, dependability, self control, and initiative. These ratings are, of course, given on a subjective basis; but it is hoped

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the social insufficiency, the next to state its nature, whether mental, temperamental, psychopathic, or delinquent or combinations of these. The social deficiency would imply institutional treatment, permanent or temporary. The advantage of this classification would be that it would be self definitive and would have a practical social significance. At present the experts heartily disagree as to what the term "feebleminded" denotes. Some even gravely debate the difference between defective delinquents and delinquent defectives—a tweedle-dum tweedle-dee sort of proceeding.

that the attention of psychologists generally will be soon turned towards the provision of objective measures of adolescent temperament. Subjective scales are hardly worth applying before the age of 12 years, as the judgments we get prior to this age are liable to be founded almost entirely on school-proficiency. Certain important temperamental traits essential to average success are measured by the maze tests, but these are unsuited to normal adolescents. Their value and application are discussed in a later chapter.

Provided that the psychologist uses these three-fold measures—estimations of all-round ability in childhood, of temperamental or character traits, and of specific abilities in adolescence, we believe that a much more reliable measure of the individual's intelligence could be made, a measure tending to come much nearer a prediction of his success in life, of his absolute worth, than any measure now available. The next steps in research are those already indicated—the improvement of the scales for measuring all-round ability, and the provision of scales for specific abilities and temperamental traits.

Chapter XVII

IMPORTANCE OF TEMPERAMENT

Our survey of the application of mental tests to the problem of the differences in racial character has involved an extensive criticism, not so much of the tests themselves but of their inadequacy for the purposes to which they have sometimes been applied and the consequent unreliability of some of the conclusions that have been based on their results. In other words we firmly believe that mental tests have a thoroughly legitimate use and value. With great care in their interpretation and the use of a sufficient range of tests, we believe that mental diagnosis of the markedly inferior and defective is possible. We believe that school "brightness" is fairly accurately measured by their ratings, and that they are worth using even as college entrance examinations as they permit of an evaluation of the most important factor in college success; but we are also firm in our conviction that all this should only be done with the full realization of the great weight of the other factors that are involved in the situation and which at present are hardly measurable. The practice that we heartily disagree with is that employed by certain writers who begin reports of investigations with this kind of definition—that intelligence is what the tests measure—and then proceed to outline conclusions and suggest policies, educational and otherwise, that lead the reader to suppose that the writer thinks that the tests have really measured intelligence. In other cases we would quarrel with the titles of the books rather than with their contents. Measurement of intelligence, intelligence

measurement, growth of intelligence, American intelligence are descriptive titles which lead the reader to expect a generality of reference which the authors in their very first pages hasten to disclaim. If the book is really a study of Binet scores or army test scores or the results of some other tests of limited application to intelligence in general, why not say so instead of hiding behind such specious titles. The whole trend of such books—if the reader missed the initial disclaimer—would lead the general public to believe that for these authors too, intelligence is what the tests measure.

The position with regard to the wide generalizations that are drawn from mental test results is exactly analogous to that which quite recently prevailed in the diagnosis of the mentally unfit. It was the fashion for everybody to say that the test results should be interpreted in the light of the educational, social or other environmental factors, but everybody forgot to say how this was to be done and in very many investigations no such interpretation was made. Consequently we had studies of the mentality of prostitutes and criminals in certain institutions, which purported to show that fifty to one hundred per cent of the inmates were feebleminded. Acceptance of the raw results of Binet testing in this way was responsible for much of the misunderstanding, and to some extent the loathing that the mental defective inspired in the minds of many people. If these pictures were true, and they were drawn by responsible workers in the field of mental testing, then it was only a little step to regarding all defectives as potential criminals and all criminals as mental defectives. As a characterization, moron became a most convenient designation, and was the more readily applied because it assigned a very simple cause to a complex social condition.

Similarly, in consideration of mental tests in general,

it is also the practice in some quarters to concede very readily the fact that the tests do not measure intelligence as psychologists themselves define it, and then to proceed to make deductions from test results and to advocate national and educational policies as if they were really satisfactory measures of intelligence. From a brief resumé of the considered judgments of some of the leaders in the field of mental testing we may gather the idea that there are factors outside the scope of mental tests which are of utmost importance, and that the pressing need of the future is to devise means of taking these factors into account in our psychological examining.

Happily for our purpose these judgments have been collected in the form of a symposium in the Journal of Educational Psychology upon which we base our quotations.

One of the most adequate statements of the value and limitations of the tests is that by Thorndike to whom intelligence is "the power of good responses from the point of view of truth or fact." He says, "Some of us have, I fear, claimed a generality for our measures of status and a surety of inference from them to original inborn capacity which it would be very hard to justify. The estimates which the psychologist makes with his tests are much better than those which parents or teachers or ordinary medical practitioners make of the same facts, so that we are justly proud of them, but we should be the first to recognize their limitations. The value of a test score is its value in prophesying how well a person will do in other intellectual tasks. Our claims may wisely be limited to the actual demonstrated power of prophecy. For example, consider a score obtained by a 12 year old boy on, say, a combination of Stanford-Binet, National A and B, and Haggerty Delta 2 (two trials of each.) If the boy has had ordinary American opportunities, this

score will prophesy rather accurately how well he will respond to intellectual demands in the cases of "book learning" at the time and for some years thereafter, and very possibly for all his life. It will prophesy less accurately how well he will respond in thinking about a machine he tends, crops that he grows, merchandise that he buys and sells and other concrete realities that he encounters in the laboratory, field, shop, and office. It may prophesy still less accurately how well he will succeed in thinking about people and their passions and in responding to these."

Terman mentions among the next steps in research the question of the relation of general intelligence to moral traits and social adaptability and "investigation of instinctive, emotional, and volitional traits and of the combinations of these which are involved in pre-psychopathic conditions and normal variation in temperament." He considers this type of investigation as largely outside the scope of the intelligence problem. It is interesting to note that as the chief exponent of the value of mental tests his program of work for the future is a very wide one indicating that in his opinion very much remains to be done.

Freeman's contribution is characterized by breadth of view. For him, as for Thorndike, intelligence would include types of capacity which are scarcely measured by the existing tests at all; a person's achievement or even his intellectual capacity does not correspond with any single specific trait measured by the tests or by all of them together. Something else in individual make-up influences his production. He says, "The characteristic which I am referring to is sometimes called temperament or moral character, but it seems to me that there are certain intellectual traits which are left out of our present scheme of tests and which should be included in a total

conception of intelligence." He like Thorndike, gives due value to "balanced and sane reaction to the entire world of things, ideas and persons."

Colvin is equally definite in placing the emphasis on character traits. "There are very many instances in which intelligence tests fail to be of value practically because they give only slight indication of those qualities of character and temperament that are vital in all human achievement . . . . . .The psychologist who devises a character test that has a reasonably high validity will earn for himself a position in the field of ability testing equal to that of Binet." And again "Until such character tests are available we shall have solved only one half of our problem in the prognosis and diagnosis of those elements which lie at the basis of human achievement."

Pintner too, states his conviction that "The time is now ripe for active investigation of the emotions, the character, the will and so forth, by means of mental test methods." Pressey is equally convinced of the necessity of work in this direction. "It is becoming increasingly obvious that matters of temperament and character are of very great importance, that they operate quite largely independent of intelligence, that prognosis problems cannot be adequately understood without an evaluation of these factors. It is also probable that these factors are more educable (in the large meaning of that word) than intellectual traits."

Equally definite is Henmon's statement: "The so-called general intelligence tests are not general intelligence tests at all but tests of the special intelligence upon which the school puts a premium. The extension of the term 'intelligence' to include what Thorndike has called mechanical intelligence, the ability to manipulate things, and social intelligence, the ability to manage men, means that we need not one, but several scales of intellect from which we

can secure an intellect profile. We have been gradually evolving a type of test for abstract intellect that is of use in classification and prognosis in school, but is not of as convincing value as a measure of general intelligence as such, nor of demonstrated value in vocational guidance and direction."

Thurstone is another psychologist who has no hesitation in saying that the program of research should include, "the diagnosis of the volitional and emotional characteristics which determine our character traits. Intelligence is only one of the elements in mentality and has been overworked because of being accessible to measurement." His final conclusion is: "It is high time that we quit justifying ourselves as psychologists by simply standardizing mental tests. If we attack the individual diagnosis of character traits as energetically as we have been giving group tests the result will be of far reaching psychological, educational, and social significance."

Haggerty too is of opinion that "probably nothing would better supplement our intelligence examination than would the perfection of our objective measure of the so-called character traits," although he would exclude these from the concept of intelligence.

From these extracts there is no doubt whatsoever in the minds of many of the leading psychologists that the present methods of measuring intelligence are distinctly inadequate and that the next steps in research must be in the direction of the examination of the volitional, emotional or temperamental traits which are usually included under the heading of character.[1]

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[1] The importance of including these traits in the mental testing program has been continually emphasized by one of us for the past ten years. In an article (J. of Psycho-Asthenics, June 1915) Porteus stated that the capacities tested by the Binet do not comprise all the important factors in life success, but that certain emotional and volitional traits were

If such importance is to be attached to the role of temperament in its relation to general adaptability we may then ask what temperament is, what is its relation to character and intellect, how it may be affected by environmental factors and what is its probable physical basis.

It has been remarked that temperament is an extremely difficult thing to define. It can be better described by what it does than by what it is. It is the focussing of the lens of mental capacity upon the field of life's experience, and without this focussing, no matter how excellent the lens, the picture will be blurred and indistinct. Temperament is the energizing of intellect, that which determines the strength of one's interest, the angle and latent force of one's bent, and thus has a profound influence on a man's achievement by determining his attitude to life's situations. It does not influence a man's capacity for thinking so much as his capacity for action, so that temperamental deficiencies often underlie that wide gulf which frequently yawns between capability and performance. Its relation to character is therefore intimate. It vivifies motivation, so that temperamental traits and qualities together make up the force for those "drives" or "sets" which so largely influence our effective-

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of equal importance. Speaking of the abilities tested by the Binet, he says, "The point is that we must not base our estimates of intelligence on these abilities alone, but must as far as possible, endeavour to test those larger capacities which count for so much in the individual's adjustment to the complexities of daily life." "Instability of temperament, peculiar emotional conditions, general unreliability and lack of sense of proportion and the fitness of things" are elsewhere mentioned as the marks of the socially insufficient. The agreement among American psychologists that these traits are worth evaluating, though somewhat belated, is none the less welcome. For a further statement of the views of American psychologists as to this point see also "A Referendum of Psychologists" by Frank N. Freeman in the Century Magazine Dec. 1923.

ness in adjustment to the situations that lie in the path of experience. Temperament is that which ensures that we pull our full intellectual weight; that we bring all that we have to the solution of our problems. To use Jastrow's apt analogy, it is like the third dimension of depth to character, mental capacity supplying length and breadth.

It is probable that in the average run of men, variability in temperament is even greater than variability in learning capacity. At least men of equal mentality are sharply distinguished from each other by differences in their temperament, differences which are of very evident value in affecting social performance and worth. The truth is not wholly expressed in the saying "Necessity is the mother of invention" for this does not reckon with the force of temperament. The circumstances which would stimulate one man to inventive effort would reduce another to the inaction of despair. The odds being against him means to one person the acceptance of defeat, to another it is the spur to endless and indefatigable effort. Courage, the indomitable spirit, the fine defiance of defeat that speaks in Henley's

> "It matters not how strait the gate,
> How charged with punishments the scroll,
> I am the master of my fate;
> I am the captain of my soul."

—all this is surely of matchless importance in the makeup of a man. Intellectual gifts even of a moderate order will carry a man far if this be the temper of his mind.

It is interesting indeed to note the great efforts man has made to describe adequately and define these telling traits of character and temperament. For the old classification of the temperaments, sanguine, melancholic, phlegmatic, and choleric we have now substituted quite a number of characterizations illustrative of men's various tendencies or predominant attitudes to life's situations. Tempera-

mental differences now appear under the guise of such terms as extrovert or introvert, antevert or retrovert. In none of these is there any reference to extent of ability but rather to a dominant trend or tendency or attitude. We are ambitious, energetic, impulsive, forward looking, persevering, courageous, determined, optimistic, changeable; or we may be complacent, inactive, conservative, irresolute, prudent, as the case may be. Then in pursuing our characterization of human behaviour we almost insensibly glide over into the emotional field and consider men as excitable or phlegmatic, sensitive or insensitive, cheerful or melancholic, self controlled or unrestrained. From these the transition to the so-called moral traits is equally easy and we regard men as honest, truthful, conscientious, unselfish, dependable, and the like. Between many of these traits we see decided resemblances in quality, although the motivation that lies beneath them is on different planes of behavior. There is surely no essential difference between physical and moral courage except that they operate in different fields. We recognize the possibility of a welding of the two in the term "muscular Christianity." Between moral conscientiousness and perseverance in general there is surely a relation in that both are expressions of devotion, the one to a moral, the other to an individual ideal.

This wealth of descriptive terms involving such slight shades of meaning and such extensive overlapping surely indicates two things—the inter-connection that these traits, whether they be volitional, moral, temperamental or emotional, have from the practical viewpoint and secondly the importance assigned to them in men's minds or surely there would not be this great effort to define and re-define them. The richness and complexity of the description is in itself a proof of the intimate bearing these traits have on human life and progress.

The importance of these traits for individual success in life can hardly be over-estimated. Two men may graduate from college together with equally good scholastic records but their achievement in after life is widely different. One man succeeds because he is ambitious, energetic, far seeing, inquiring, resolute, determined and filled with "divine discontent"; the other man accomplishes little because he is inactive, contented, and intellectually lazy, discouraged by initial failure or unambitious. In other words the essential differences between the two men are that they have a different emotional attitude, a different strength of will or purpose and a different ability to direct and organize their energies, in short their whole emotional, volitional and temperamental make-up is different.

Of course it is recognized that opportunity enters into the matter of life success. Terman in discussing this matter states that Newton owed his opportunity to obtain a university education to the circumstance of his uncle finding him studying beneath a hedge, the inference being that only for that accident we might not have had the theory of gravitation. But it is hard to believe that genius such as Newton's would not have found other opportunities to obtain an education. We may readily concede that opportunity makes the thief, but not that opportunity makes the genius. A later study by Terman (Genetic Studies of Genius) points to the fact of the heredity of genius. Another interesting conclusion is that the families of some of our gifted children are in financial circumstances below the level of moderate comfort.

There are other writers who minimize the influence of emotional traits because as they say, intellect may control the emotions. But it is not a matter of emotional traits alone nor is it correct to say that intelligence controls the emotions in the sense of its being in supreme control. There has never yet been an individual nor a group of in-

dividuals whose actions were controlled by pure reason. It is much more correct to regard all of our behaviour as the result of an interplay of intellectual, emotional, volitional and temperamental factors. In fact it is very difficult indeed sometimes to analyse our actions and to determine which is the dominant influence. There are not many psychologists, however, who would so enthrone the intellect.

Unfortunately, while in practical life the influence of these traits is so inseparable, we have no single term which will cover them all, no description that will include all the factors outside the cognitive that give force to character. Such a term, if devised, should convey the idea of balancing or cooperating mental energies. In inventing the word "psychosynergic" to describe these traits we have borrowed in part from anatomy. Synergic muscles are those which operate together so as to bring about a complex muscular activity as for example, locomotion. Psychosynergic traits therefore seemed to us to be an apt term to describe the complex of traits that along with intellect determine our behavior. The connotation of the word "temperament" has lately widened so as to include many of these traits so that for the present we may use the terms temperament and psychosynergic traits interchangeably.

The degree to which temperamental qualities are enmeshed with character is well expressed by Jastrow.[2]

"Temperament is nature specialized upon the basis of a temper of qualities of a common inheritance expressed in and through the functioning of the nervous system. It is the ultimate condition of individual quality, the native vein of the psychological ore . . . As nature underlies nurture, and heredity limits the influence of the environ-

[2]Jastrow, Joseph—Character and Temperament. p. 428.

ment, so temperament underlies and sets limitations to character."

Hence the knowledge of right is nothing without the will to do right and the will to do right can only be effective through the energy which we have at our command to vitalize action. To quote again from Jastrow[3]—"However vain mere strenuosity undirected by intelligence and unredeemed by moral rectitude, it yet presents the indispensable requisite for achievement and coupled with it on the emotional side is the enthusiasm that keeps aglow the fires of devotion to persons, interests, causes and movements."

We may now inquire as to the possible physical basis of temperament. We have shown in another section that measurable brain-growth proceeds in the male from fourteen years onwards to a period between twenty and thirty years of age, and that this brain growth is evidently not connected with any increase in learning capacity. On the other hand we have endeavoured to show that this period is the period of the maturing of psychosynergic qualities. The differences in social adaptation of the races seem to be due to pronounced temperamental differences rather than of learning capacity. The sex differences that are apparent in brain growth have also their counterpart in significant temperamental differences.

Bolton[4] has shown that the outermost of the cell layers of the cortex of the brain which he calls the supra-granular, is the one diminished in depth in the brains of the mentally defective, this effect being due to a deficiency both in the number and development of its nerve cells. It is also the layer of cells which undergoes most deterioration in cases of chronic dementia. Only in the lowest forms of idiocy is the lowermost or infragranular layer affected,

[3] Jastrow, Joseph—Character and Temperament. p. 246.
[4] Bolton, J. S.—Brain in Health and Disease.

while in cases of sense deprivation as in the blind it is the middle or granular layer which is diminished most in depth. Bolton therefore concludes that the supragranular layer subserves those functions in which both the mentally deficient and the demented differ most from the normal. The differences between the subnormal and the normal are not, however, only intellectual, and, indeed, these cases may be diagnosed by their temperamental as well as by their mental deficiencies. The temperamental defects are even more outstanding and mark their possessor down as feebleminded more clearly than their mental inferiorities. As a matter of fact in cases where there is a sufficient basic level of all-round ability, from nine to twelve years of Binet score, then it is the individual flaws in temperament which determine whether with that low level, a person may float permanently in society. Temperamental and general character changes are also the outstanding features of the conduct of the demented and form the initial symptoms of such mental diseases as those of the dementia praecox group. Hence it seems fair to assume that the supragranular layer subserves not only the intellectual but the temperamental traits as well. Through the infragranular layer it is assumed that the more fundamental self-protective and reproductive instincts function, but it is probable that the higher control of these as well as of the more distinctively human traits of ambition, perseverance, stability of interest, resides in the supragranular layer.

The chronological development of this layer also accords with our theories of temperamental development. The work of Watson has shown that it is the supragranular layer which is the distinctively human portion of the cortex, since in man's brain it differs most in measurable depth from the cell layers of the lower mammals. Moreover, it lags behind the other two layers in point of devel-

opment so that while the granular and infragranular are practically complete at birth the supragranular has only sixty per cent of its ultimate adult depth. (See Fig. 12) The growth of the brain during adolescence is evidently connected with the development of the cells of this layer and the countless nerve processes which link them up. Adolescence, too, is the time of the most important influence of psychosynergic traits and probably marks the period of their maturing. "Adolescence may be interpreted," says Jastrow, "as the displacement of the youthful by the mature temperament." The sequence of development of cell layers seems to provide additional foundation for the belief that the brain growth, which takes place in the individual after learning capacity has reached its peak, is related to development of other traits equally important to successful adjustment but which are not measured by existing intelligence tests.

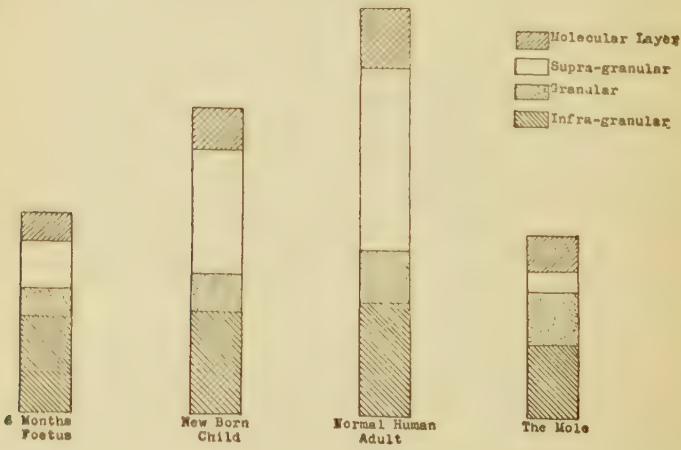

FIGURE 12
Growth of the Cerebral Cortex.
(*After Watson and Bolton*)

Even though we may be convinced that temperament is expressed in and through the nervous system we must still find a place for the operation of a re-enforcing and mobilizing influence which resides in the endocrine glands. The operation of these glands in the manifestations of the more fundamental feelings of hunger, pain, fear and rage may act independently of any impulse from the central nervous system. Cannon[5] has shown that these manifestations may be induced by injections of the secretion of the suprarenal glands. Bodily energy is affected through the action of this adrenalin in increasing the circulation of the blood to the muscles, and by the stimulation of the liver to greater production of blood sugar which together with oxygen supplies the fuel for muscular exertion. Hence it is no great assumption to make that such qualities as perseverance, resolution, ambition, antevert attitude, etc., of the individual may be largely affected by the balanced function of the endocrine mechanism, interacting with the central nervous system and particularly with the supragranular layer of the cerebral cortex. The difference in the temper of our qualities from day to day, the fact that at one time we are running over with vitality and ambition so that the day's work seems less burdensome and the wells of inspiration lie open at our feet, may be due to the temporary attainment of that endocrine balance that constitutes our optimal condition for mental achievement. This mobilizing of our energies may, however, be independent of general bodily health; for admittedly some of the world's finest work has been done by men not at the height of their physical powers. The attuning of all our powers for supreme effort on occasions involving the more fundamental emotional crises is thus described by Cannon. (p. 195-196.)

"Thus the adrenin set free in pain and in fear and

[5] Cannon, W. B. — Bodily Changes in Pain, Hunger, Fear and Rage.

rage would put the muscles of the body unqualifiedly at the disposal of the nervous system, the difficulty which nerve impulses might have in calling the muscles into full activity would be practically abolished, and this provision, along with the abundance of energy-supplying sugar newly flushed into the circulation would give to the animal in which these mechanisms are most efficient the best possible condition for putting forth supreme muscular efforts."

If this is the effect of the action of one set of endocrine glands in conditions of emotional stress, it is not a far step to assume that persistence and courage and the will to succeed may also be re-enforced by the constant and permanent action of all the glands, affecting all of our attitudes. Schlapp[6] after enumerating cases of abnormal behavior associated with endocrine involvement and showing how the emotional instability was corrected by glandular treatment makes the same suggestion. In his view as an authority on abnormal behavior it does not require any great feat of the imagination "to understand the connection between these grave or dramatic cases of malfunction in the central nervous system and the less obvious peculiarities of conduct and character in mankind up and down the social scale."

But as Keith[7] points out, the action of the ductless glands is twofold; one immediately affecting our response to the nervous impulses and which thus underlies temperament, but another more remote or morphogenetic effect in regulating and coordinating growth. The thyroid, for instance, as well as assisting us to mobilize all our available tissue fuel to withstand cold or infection, has a remarkable effect on growth, as is shown in cretinism where the thy-

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[6] Schlapp, M. G.—Behavior and Gland Diseases. J. of Heredity, Jan. 1924.

[7] Keith, Arthur—The Differentiation of Mankind into Racial Types. Smithsonian Report for 1917. p. 448.

roid action is deficient. Thyroid or ovarian extracts have in some cases of extreme temperamental instability and excitement been found to have a therapeutic effect, but their remote effect in determining general growth or the characteristics of sex is even more striking. Since it is the physical differences, length and proportion of limbs, facial and head configuration, skin colour, character of hair, which mark off the races from one another, then we may quite conceivably find in the endocrine glands the basis and explanation of racial differences. Keith is quite emphatic in putting this view.

"All these manifestations to which I have been directing your attention—the sporadic manifestation of the Mongoloid characters in diseased children and in healthy adult Europeans, the generic characters which separate one kind of ape from another, the bodily and mental features which mark the various races of mankind—are best explained by the theory I am supporting—namely, that the conformation of man and ape and of every vertebrate animal is determined by a common growth-controlling mechanism which is resident in a system of small but complex glandular organs."

If then the physical race differences have as their underlying basis the balance or imbalance of ductless gland action, and the function of these glands is not only to regulate growth but to re-enforce temperament, it is quite reasonable to suppose that in the field of temperamental traits we shall also find the most significant psychological differences of race.

Endocrinology as a study is yet in its infancy and we must recognize that much remains to be done before the above mentioned theories gain a secure basis through fact and experiment. Physical and temperamental traits, we believe, together form the matrix of race, the raw stuff with which nature moulds the racial types. It would be

interesting indeed if further research shows that the endocrine glands fashion our racial differences, that they are the mysterious shuttles which carry the warp and woof of our racial patterns.

Chapter XVIII

TEMPERAMENT AND RACE

We may now turn to the examination of the tests that are available for the measurement of the traits that lie outside the field of the so-called "general intelligence" examination and to the demonstration by their means of temperamental differences between the races.

It will be remembered that we divided the periods of life before maturity is reached into three parts in each of which a different importance was assigned to certain forms of psychological development. The first period of life which probably ends about fourteen or fifteen years of age is the period when all-round school learning capacity reaches its peak. The adjustments which the boy is called upon to make are necessarily home and school adjustments, so that the influence of the teacher and parents provides many props to character that are lacking in adolescence when temperamental traits come most prominently into play. In the later period of post-adolescence special gifts and abilities are the main determiners of success. Hence any adequate measure of progressive adaptability of the individual must necessarily include tests of all-round learning capacity, temperamental qualities and special abilities. When all-round capacity falls to a certain point below normal development then the character traits must be taken into consideration as well as the possession of any industrial abilities, before we can determine the social sufficiency of the individual. The exigencies of mental diagnosis have compelled the devising of tests which serve to evaluate certain important temperamental defects in the individual and also to give an indication of his industrial trainability for self-support.

These tests are inadequate to measure adolescent temperament but it must be remembered that while temperamental qualities and even specific abilities do not have their greatest influence during childhood, they are developing also at the same time as general learning capacity. From the degree of this childhood development we may predict fairly well the temperamental development of later years in those qualities which the tests measure. Hence temperamental differences between the races that can be demonstrated in childhood are likely to persist in later life. Of tests of mature temperament we have practically none and so are forced to fall back on the tests that are available for the measurement of temperamental qualities in children up to the age of fourteen years.

The only series of tests available for this purpose are the Porteus Maze tests which were designed eleven years ago to supplement the existing scales of tests of "general intelligence." The work of devising these tests was undertaken because of the author's recognition of the fact that social inefficiency was due to other factors than intellectual deficiency, and that there were very definite temperamental defects that characterized the feeble-minded. Some of the most important of these have already been enumerated, such as lack of planning capacity, suggestibility, emotionality, impulsiveness, and irresolution. These, however, had little chance to influence school progress and were not sufficiently evaluated in the only scale of tests then available—the Binet-Simon. Yet these qualities are of paramount importance in affecting our response to the problems of the field, the shop, the laboratory and the office. Still more intimately do they enter into the adequacy of our reactions to people and their passions—the kind of responses which Thorndike points out are not measured adequately by the Stanford-Binet and similar tests. We do not pretend that these are measurable at mature levels

but in the immature normal or the adult defective the maze tests do measure them with a considerable degree of success.

The maze as test material seemed to lend itself admirably for the purpose of measuring some temperamental and character traits. The series is begun with very simple designs through which the subject has to thread his way. Then more complicated designs are introduced and the whole arranged into a series, the maze designs of the greatest difficulty having many false openings leading to blind alleys or *cul-de-sacs*. The most intelligent response to the maze test is characterized by a preliminary study of the problem, and the planning of the right course to be pursued. Even the most complicated labyrinths may be solved by a careful preliminary study. Then when an adequate idea of the complexity of the task has been obtained, the intelligent response is characterized still further by a prudent execution of the preappointed plan, the subject stopping at every turn and false opening to refresh his memory as to the right course to be pursued. In this respect the printed maze differs entirely from a real maze or the maze used in the testing of animal intelligence. In these latter no preliminary survey of the whole problem is possible but trial and error offer the only solution. The printed maze is in no sense a test of speed of learning.

The nature of the maze test can best be described by a consideration of the temperamental qualities that make for failure. Some children, because the test presents a novel situation, become very easily confused or "rattled." When they make a mistake they are much more likely to make another in consequence. The very suggestible cannot resist the lure of the open path while the over-confident underestimate the difficulty and do not exercise the necessary foresight. The impulsive child so often commits himself to the wrong course and then stops to con-

sider his action. Such an individual does not readily carry over his experience from one test to the next. The tendency to nervous confusion is more characteristic of the reaction of girls than of boys. The former take the tasks very seriously—much more seriously indeed than boys—but their natural impulsiveness, suggestibility and nervousness are fruitful causes of failure.

In scoring the tests no account is taken or mention made of speed of working. Immediately the subject knows he is working against time, the test ceases to be a test of prudence and foresight but merely of a special kind of mental alertness. The one who is quickest to see the way out or who can correct his errors quickest would score under these conditions much better than the careful prudent worker. There are many performance tests which specifically test mental alertness so that this feature was deliberately diminished in importance in the test.

In order to measure the degree to which a person may profit by his experience in readjusting his methods, a system of repeated trials was used in the application of the tests. As soon as a mistake is committed the trial is discontinued and the test recommenced from the beginning. This recommencement of the test serves to bring home to the consciousness of the subject the consequences of failure. At the same time no comment is made by the examiner on any failure. If the subject learns prudence through the commission of an error, it will be as a result of his auto-criticism and not through the suggestion of the examiner. Each mistake that is made is, however, penalized in the scoring, and the end result is expressed in terms of an age performance score. This score has been standardized by application of the tests to several thousands of children. Dr. Cyril Burt,[1] psychologist to the London County Council, has tested this standardization

[1] Burt, Cyril—Mental and Scholastic Tests. p. 222.

with English children and has found it to be reasonably correct.

Planning capacity as such is of course not tested in these tests because planning capacity naturally differs in different fields of action. The planning which enters into the mapping out of a military campaign or a game of chess is probably quite different to the planning capacity which is used in planning a bridge or a book. It must be remembered, however, that there is no attempt made to measure planning ability at these high levels but only as it is exercised in a simple concrete task. The person who exhibits very inferior planning ability in the tests will surely show it in his daily work. But the tests for the upper years, at any rate, are designed to test not the capacity as such but rather to obtain a measure of the individual's tendency to use forethought in a new situation—in short, a temperamental rather than a mental capacity is evaluated.

It will be readily recognized that care and prudence as well as foresight, emotional stability, persistence in the face of difficulty, resistance to suggestion, power to profit by experience, desire to excel, will all be factors in such a series of tests. Though we cannot judge of the strength of these qualities at higher levels of performance, we can at least feel sure that a person who cannot bring these qualities to bear on such a simple task will not be likely to have them at his command in coping with the situations of every-day life.

In general, therefore, the maze test provides a measure of the individual's ability to adapt his methods to the solution of a problem, the most intelligent attitude to which is one marked by forethought and prudent working. Because the mazes are graded in difficulty from the very easy to the more complex, an opportunity is afforded him to learn from his own experience and to re-adapt his methods

if necessary. The traits that enter into the successful carrying out of the task are preeminently commonsense qualities. We wish to know whether the subject of the test has the ability to realize a situation, foresight to anticipate his response and common prudence sufficient for him to deal with it successfully. If an employer could put a new hand to work at a novel task, watch him at work to see whether he used commonsense in economizing time and effort, and to make sure that he did not mar the end result by hasty or careless work, then he would be measuring exactly what we are trying to measure with the maze. The advantages of the latter would be that it is graded in difficulty, that the same situation occurs a great number of times so that we are better able to observe the process of adjustment, that it takes a much shorter time to apply the test, that no specialized aptitude is involved and finally that by being standardized by age we have a means of scoring that is objective and not subjective. We may say therefore that the maze test enables us to measure approximately the ability of an individual, at or below a normal fourteen year level, to use planning capacity in a concrete task as far as his temperament will allow him to do so.

The tests are not, of course, adequate tests of temperament in general, nor are they always successful in showing up all forms of instability. There is a type of psychopathic child who shows at his best in a short well supervised task such as the maze presents, but who does not accomplish successfully the more monotonous drudgery of ordinary occupations and who fails to carry responsibility for any length of time. There is a type also of slow-moving steady-going defective that succeeds by sheer persistence in the maze test, but is too slow to respond to the ordinary conditions of training in every-day life. Because of the success of such individuals the author has re-

marked that failure in the tests is much more significant than success.

Since the publication of these tests ten years ago, they have come into increasing use as part of a system of mental examinations and are used widely in mental clinics throughout this and other countries. As previously mentioned, they were applied by their author to small groups of children of a primitive race, the Australian aboriginal. The results, though the records were rather scanty, showed that the response of these children was somewhat inferior to that of white children, and that this inferiority increased with age. Though they are by no means applicable to all cases of delinquency and criminality they do succeed in revealing a temperamental inadequacy in many inmates of jails and reformatories, and are recommended as part of the routine examination of delinquents by experts in this line of work.

The results of work done with these tests in application to the feebleminded show that they correlate highly with social adaptability and industrial trainability. Nine separate investigations of the relation of maze test results to social adaptability in the feebleminded proved that the correlation of the maze tests in this respect was higher than that obtained for the Binet[2]. Four other studies with feebleminded females showed a distinct advantage of the maze tests in this regard. Similarly a high maze score has been shown by several studies to be closely related to industrial efficiency, the correlation being considerably higher for the Maze than for other tests, including some performance tests. From this evidence there is little doubt but that at this level of intelligence the group of qualities examined by the maze are important factors in general social adaptability.

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[2] Porteus, S. D.—Guide to Porteus Maze Test. p. 10.

The sex differences revealed by these tests are decidedly interesting. In two investigations carried out by Porteus, the average performance of boys was superior to that of girls at every age up to twelve years, at which period girls excelled the boys, the latter again registering a superior performance at fourteen years. The female development in the traits measured by the tests, which is thus indicated, parallels the bodily and brain development in females. From about eleven years of age girls exceed in average height boys of similar age and maintain this superiority for several years. The medians of male and female brain capacity show that the advantage in males is least marked at this period. Extension of the application of the maze tests to high school students also revealed that while there is in males a fairly steady increase of speed and accuracy right into early adolescence, there is not much improvement in females above the fifteen-year level.

A further advantage of the maze test lies in the fact that as it is practically independent of language, it gives the child with good practical ability but of inferior verbal intelligence the opportunity to display his ability in its fairest light. Since practical abilities are of such importance at the lower industrial levels, this feature of the tests makes them particularly desirable in studies of racial intelligence such as we have undertaken. In other words we are testing this ability at the level and in the direction in which it is most effective. It is obvious that the use of tests which are very largely affected by familiarity with or facility in the use of language may not give us a true picture of inherent racial ability but rather of the degree to which capacity is hidden by environmental disadvantages. Of course the maze tests as tests of certain temperamental qualities are affected to some degree by experience, but it is the experience of life in which every child is exercised rather than school or social experience that

matters. The strength of tendencies is influenced by habit, but it is the habits that are self-formed rather than those which are imposed on the child that influence his performance most. In short, it is the tendencies which are natural and inherent but developed through life experience which are measured. The two features, independence of schooling and independence of language, combine to make the maze tests eminently suited for application to children of various races. Any differences that are brought to light by these tests are the more likely to be inherent differences and not merely apparent differences due to the inadequacies or unsuitability of the tests.

The relation of maze test performance to so-called "general intelligence" is fairly close, but at the same time the coefficient of correlation between such a test as the Stanford-Binet and the maze is low enough to make it quite clear that they are not measuring substantially the same qualities throughout. The correlations found in a number of investigations are usually of the order .5 or .6, their size being affected largely by the range of variability in the group tested. The chief ability common to success in both the Binet and maze is probably a kind of mental alertness, but that maze test performance is influenced by other qualities is shown by the fact that its correlation with a test of mental alertness such as the Form and Assembling Test is not so high as the correlation of the latter with the Binet.

School proficiency also is not intimately related to maze test performance—in fact the correlation with educational capacity is low. On the other hand we have seen that the Binet correlates highly with school proficiency. It is with the extra-scholastic factors in adjustment that the maze test is most concerned. Particularly in the case of girls do we find a high correlation with social adaptability as measured by the social rating scale. The average

coefficient of correlation in the nine investigations previously mentioned as carried out with males was Binet .64, Maze .68. In four studies with females the maze averaged a correlation of .76 as against .69 for the Binet. That school proficiency is not related to the tests is important, as the school grade of the subjects of our investigations need not therefore enter into the question of the selection of children for examination. As a matter of fact we have been very careful to see that the children were drawn proportionately from each school grade in which they were to be found, so that the average educational ratios of the Oriental groups were approximately equal, the Japanese having a slight advantage at nine years and the Chinese at twelve years.

The children examined by this test were the same groups to whom the modified Binet had been given, the results of which were reported in a previous chapter, also 372 ten, eleven and thirteen year Japanese and Chinese boys and girls, and 182 American boys from nine to fourteen years of age. It will be remembered that no very significant differences were brought to light by the Binet examination except as regards the white group whose advantage could be very largely attributed to the language factor. As regards the Portuguese, Chinese and Japanese, a slight advantage lay with the Chinese. No very significant sex differences either were apparent.

An examination of the maze test results obtained from these same groups of cases, and shown in Fig. 13 and Tables 29 and 30, reveals a very different condition of affairs. Here the evidence for racial difference is much more distinct. Taking the average performance of each group into consideration, we find that in the first four age groups from nine to twelve years of age the Japanese boys are superior even to the Americans. It is not until thirteen and fourteen years of age that the latter

run ahead. A comparison of the medians shows that the advantage is not quite so marked as it is on the average, the American median at ten years being above that of the Japanese.

TABLE 29

PORTEUS MAZE TEST RESULTS

AMERICAN BOYS — 182 CASES AV. I. Q. 99.2

Chron. Age	No.	Av. Maze	Av. I. Q.	Median Maze	S. D.	P. E.
9	30	9.4	99.5	9.33	1.49	.13
10	30	10.93	104.5	11.42	2.37	.21
11	31	11.38	99.5	11.68	1.84	.16
12	32	12.16	97.5	12.41	1.46	.12
13	31	13.03	97.	13.40	1.88	.16
14	28	13.6	97.	13.75	2.01	.18

CHINESE BOYS — 200 CASES AV. I. Q. 95.3

Chron. Age	No.	Av. Maze	Av. I. Q.	Median Maze	S. D.	P. E.
9	33	10.21	108.	10.33	1.85	.15
10	27	10.5	100.	10.875	2.49	.23
11	35	10.8	94.	10.81	2.0	.16
12	37	11.34	91.	11.625	2.02	.16
13	32	11.92	88.5	11.875	1.75	.15
14	36	12.9	92.	12.91	1.77	.14

JAPANESE BOYS — 208 CASES AV. I. Q. 101.9

Chron. Age	No.	Av. Maze	Av. I. Q.	Median Maze	S. D.	P. E.
9	39	10.22	108.	9.83	1.7	.13
10	27	11.44	109.5	11.0	1.92	.18
11	37	12.03	105.	12.0	2.06	.16
12	36	12.4	100.	12.55	1.71	.14
13	27	12.77	95.	13.0	2.15	.20
14	42	13.35	95.	13.15	1.63	.12

PORTUGUESE BOYS — 97 CASES AV. I. Q. 91.5

Chron. Age	No.	Av. Maze	Av. I. Q.	Median Maze	S. D.	P. E.
9	31	9.14	96.5	9.165	1.78	.153
12	32	11.22	90.	11.415	1.77	.149
14	34	12.4	88.5	12.417	2.02	.165

Comparing the Japanese and Chinese we find equal scores at nine years but thereafter the Japanese are superior at every age, the advantage being particularly marked at eleven and twelve years where it amounts to over a

year but is diminished somewhat at fourteen years. The medians give the same relative positions except that the Chinese appear superior at nine years of age and the Japanese superiority is most marked at eleven and thirteen

TABLE 30

PORTEUS MAZE TEST RESULTS

PART-HAWAIIAN BOYS — 95 CASES AV. I. Q. 100.14

Chron. Age	No.	Av. Maze	Av. I. Q.	Median Maze	S. D.	P. E.
9	29	10.53	111.5	10.68	1.77	.157
12	33	12.07	97.	12.3	1.81	.15
14	33	13.06	93.3	13.375	1.75	.145

CHINESE GIRLS — 188 CASES AV. I. Q. 88.9

Chron. Age	No.	Av. Maze	Av. I. Q.	Median Maze	S. D.	P. E.
9	29	9.43	100.	9.0	2.11	.187
10	32	9.58	91.5	9.25	1.75	.148
11	31	9.95	87.	10.125	2.14	.183
12	35	10.61	85.5	10.90	2.37	.191
13	30	11.53	85.5	11.75	2.37	.206
14	31	11.95	85.	11.93	2.18	.186

JAPANESE GIRLS — 198 CASES AV. I. Q. 96.8

Chron. Age	No.	Av. Maze	Av. I. Q.	Median Maze	S. D.	P. E.
9	29	9.76	103.5	9.875	2.1	.19
10	34	10.21	98.	10.415	2.21	.18
11	33	11.74	102.5	11.665	2.36	.196
12	39	11.8	95.	11.8	1.91	.146
13	27	12.17	90.5	12.166	1.95	.179
14	36	12.85	92.	12.65	1.93	.154

FILIPINO BOYS — 156 CASES AV. I. Q. 97.67

Chron. Age	No.	Av. Maze	Av. I. Q.	Median Maze	S. D.	P. E.
9	23	9.61	101.	9.375	1.62	.161
10	25	11.06	105.	11.25	1.8	.172
11	25	11.70	102.	12.187	1.98	.189
12	24	11.73	94.	11.65	1.77	.172
13	20	11.725	87.	12.0	1.82	.194
14 and over	23	12.46	89.	13.68	2.30	.228

years of age. The scores of the Portuguese were only obtainable at three points—nine, twelve and fourteen years; but at each period they are inferior to the Chinese in both average and median performance. The Hawaiian

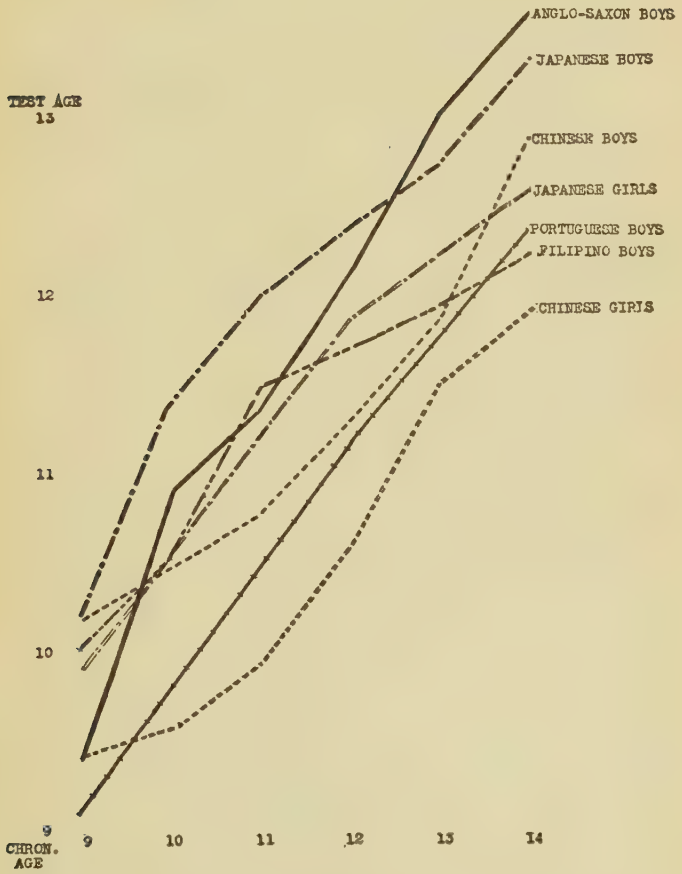


FIGURE 13
Temperamental Traits and Race Porteus Maze Test Averages.

groups have the best average and median score of any group at nine years of age and take third place at twelve years (below the Japanese and American). At fourteen years of age their average performance is again below that of the Americans and Japanese but in median score they are second at fourteen years, being exceeded only by the Americans. A number of cases in this group, however, have white blood in them so that they do not represent a pure racial group.

As regards the girls, the superiority of the Japanese over the Chinese girls is even more marked than was the case with boys. At no age period did the Chinese either in median or average performance equal the Japanese, and, as was the case with boys, the most marked superiority was at eleven and twelve years of age. In other words the curve of development of the traits measured in the maze tests is parallel for both sexes. As regards a comparison of the sexes with one another—Japanese boys are above the girls at every period except at the nine year median, Chinese girls are below Chinese boys at every age and moreover show a greater inferiority than the Japanese girls do when compared with males of their own race. Hence for the results of the maze test it is possible to demonstrate distinct racial and sex differences.

It may be objected, of course, that the numbers are small and that the standard deviations for the groups are rather high so that the differences may be due to chance. These objections would carry greater weight if the comparisons were made at one or two points only; but when we find the differences so constant in so many age groups it does not seem as if chance could explain the situation. The inclusion of the two groups of girls has the effect of a repeated experiment, and when the same differences in performance are found as before we are compelled to accept their validity. The variability of the maze results,

of course, diminishes the relative value of the differences somewhat but even taking this fact into consideration the differences are constant and significant.

We may state the relative conditions in quite another way by comparing the average performance of the groups as a whole in relation to their age. For this purpose we have calculated the attainments quotient (usually called the intelligence quotient or I. Q.) for each group. The Japanese come first with an I. Q. of 102, the Hawaiians being second with an I. Q. of 100. This relatively high position of the Hawaiians is in part due to their precocity of development at nine years, when their I. Q. is 111.5, dropping to 93.3 at fourteen years. The Japanese range is from 109.5 at ten years to 95 at fourteen years. Third place is taken by the American group with an I. Q. of 99.2, their range being from 104.5 at ten years to 95 at fourteen years. In other words age is affecting the American I. Q. least. The Japanese girls come fourth with 96.8, the Chinese boys fifth with 95.3 or nearly seven points below the Japanese average. The Portuguese average 91.5 and the Chinese girls only 89. These differences must be considered of some importance.

We may also compare the groups by finding out what percentage of the other races are above the median or middle score of the Japanese, what proportion are above the 75 percentile and what proportion below the 25 percentile. This will give us an idea of the distribution of the scores, so that we can tell for instance whether there are as many Chinese with superior scores or how many there are with very inferior scores as compared with the Japanese. The fairest way to indicate this is to take the median I. Q.s for the groups as a whole which thus minimizes the effect of age and makes the numbers of sufficient size to increase the probable validity of the comparisons and conclusions. Table 31 gives the results of these

comparisons and shows the significance of the racial differences very clearly.

TABLE 31

PERCENTAGE OF RACIAL GROUPS IN RELATION TO THE JAPANESE BOYS

MEDIAN MAZE, I. Q., Q^1 AND Q^3

Racial Group	No.	Per cent Lower than Jap. Boys Q^1	Per cent Exceeding Jap. Boys Median	Per cent Exceeding Jap. Boys Q^3
American Boys	182	28.	50.	22.6
Chinese Boys	200	37.5	35.4	19.
Portuguese Boys	97	47.5	28.8	14.9
Hawaiian Boys	95	26.3	48.5	27.4
Japanese Girls	198	37.4	42.	23.8
Chinese Girls	188	51.	29.8	13.8

Fifty per cent of the American boys actually exceed the Japanese median I. Q., which means that there are as many Americans as Japanese of better than median ability. There are, however, fewer American boys with superior scores—that is, above the Japanese 75 percentile. Instead of 25 per cent we find 20 per cent above this level. There is also a greater number (29 per cent) with very inferior scores.

Comparing the Chinese with the Japanese we find no less than 37.5 per cent of them below the Japanese 25 percentile. In other words, there is an excess of 12½ per cent of Chinese at the lowest end of ability as measured by the tests. There are 19 per cent above the Japanese 75 percentile which is a deficiency of only 6 per cent. Hence we may say that the low score of the Chinese is due to the presence in the group of a number with very inferior status in the traits measured by the tests.

That this condition also accounts for the low average scores of the Portuguese may be concluded from the fact that no less than 47.5 per cent of this group fell below the

CHINESE-HAWAIIAN GIRL
(Photo by R. J. Baker)

JAPANESE-HAWAIIAN GIRL
(Photo by R. J. Baker)

Japanese 25 percentile. Over half the group of Chinese girls (51 per cent) also fell below the Japanese 25 percentile.

The position of the part Hawaiian group is extremely interesting. While there is a slightly smaller number with scores above the Japanese median, there is actually a higher percentage above the 75 percentile than there are Japanese. This is compensated for by the fact that there are rather more of very inferior ability. This seems to show that the part Hawaiian group is slightly more variable than the Japanese. It must be remembered that the superior scores of the nine-year Hawaiians tend to improve the position of the group as a whole.

Their excellent record in these tests raises the interesting question as to the inheritance of these traits. Particularly in the case of the Chinese-Hawaiians it may be that the Hawaiian blood brings with it a certain temperamental strength which the Chinese lacks. The Chinese may supply the learning capacity and the Hawaiian the resolution and the emotional placidity which together make an excellent blend in character. From the comparisons of the two groups in Chapter II it will be seen that distinct temperamental differences are noticeable between the Chinese-Hawaiian and the White-Hawaiian mixtures. The former are more industrious, submissive and have better scholastic abilities; the latter have more initiative and independence. Just what the Hawaiian blood contributes to the personality of the individual is difficult to judge. In the absence of any examination of a pure Hawaiian group we lack a proper picture of Hawaiian temperamental qualities.

From our maze test results we may conclude that in the qualities measured by the tests the Japanese are significantly superior to the Chinese and both Oriental races are superior to the Portuguese. The position with regard to

a Japanese-American comparison is not so clear. The latter are inferior to the Japanese at all ages up to twelve years, but are superior at thirteen and fourteen years. This may represent a spurt in development of the American boys at these ages, and if the measurements were continued beyond this point the Japanese may again run ahead. This is a problem for future investigation.

It may be asked whether there is any evidence other than what is available from an analysis of the nature of the tests as to what the qualities are that are thus indicated as being of superior development in the Japanese. For this evidence we may refer to the work done on the social ratings scale. Here it was found that the highest correlations with low maze test scores were found for the following traits in males—lack of planning capacity, over-emotionality, and irresolution. In the case of females the highest coefficients were for lack of planning capacity, irresolution, over-emotionality, suggestibility and impulsiveness. Hence we may conclude on the basis of these results that the superior performance of the Japanese in the maze indicates their possession of traits the reverse to these or, in other words, they tend to plan better, are more resolute, and less emotional than Chinese or Portuguese, while Japanese girls in addition tend to be less impulsive and suggestible than Chinese girls. If these differences are continued into later life—and what evidence we have tends to this conclusion—then we may safely assume that the racial differences in these temperamental traits count for a great deal in determining the successful adjustment of the racial groups in their new environment. Superior planning capacity, resolution and self-control are surely assets of great value to a racial group.

These traits were however, revealed not only by the quantitative results but also by the nature of the children's individual responses to the test. The Japanese children's

reaction was on the whole characterized by a very serious minded attitude. Premeditation was most frequently the rule and success in solving the problem was in many cases due to a dogged persistence that was not to be denied. In the younger children even when, under the conditions laid down, failure was recorded there was an evident disinclination to give up the task. The making of an error was marked not so much by expressed disappointment as by an evident resolution to approach the next problem with extra prudence and care. Japanese children did not give the impression that they were the equals in mental alertness of the Chinese, but that they owed their success to a better temperamental balance. The Chinese were much more expressive as regards their emotions, failure being accompanied in some cases by very evident signs of distress and disappointment. But where the mistake seemed to teach the Japanese child prudence, it often served to confuse the Chinese child so that it was more likely to make another in consequence. Readjustment of methods seemed difficult especially to the Chinese girl. In contrast with the latter the Japanese seemed stolid but continued observation led at last to the conclusion that it was solidity rather than stolidity which was the dominant feature of Japanese character. Their very serious attitude was merely an expression of their determination to succeed.

The Portuguese were more volatile, and their reactions in contrast with the Orientals were marked by over-confidence and heedlessness. Their mistakes were generally due to impulsiveness. Their reactions were, however, usually quick and would give one the impression that their perceptions were naturally alert. It is only fair to state that while their score was low, some evidenced a very superior performance so that their variability as a group was great.

The most interesting contrast and the most marked was that between the Japanese and the American boys, the latter group being in attendance at school in Millville, New Jersey. These cases were examined on the mainland because there were insufficient numbers of boys of average social grade available in Hawaii. Millville is however, hardly an average American community as it contains a large number of mills, attracting people of not very high grade, but the same thing may of course, be said of industrial conditions in Hawaii. These boys' reactions were marked by a very noticeable lack of self-consciousness. Many of them offered comments on their success all the way through the tests and thinking aloud was quite common. Compared with the quiet serious attitude of the Japanese the American is pronouncedly expressive and extrovert. Like the responses of the Portuguese the American boy's efforts were frequently marked by an impulsiveness and heedlessness, but the latter evidently have a planning capacity which the Portuguese lack. Emotionally the two white groups are nearer together, but the mental alertness and planning ability of the Americans served as a balance to their rather impulsive dispositions. They also showed a more pronounced tendency to profit by their mistakes and thus readjust their methods. Overconfidence or perhaps a tendency to underestimate a task must be considered as an American characteristic as displayed in these tests.

Although the Filipinos were not included in the comparisons of races as regards learning capacity we were able to apply maze tests to groups of boys which, though smaller in number, are sufficiently large for comparative purposes. In average score boys of this race occupy a very favourable position from nine years to eleven years of age but thereafter there is a very significant drop so that from third place at nine years they fall to sixth place at fourteen

years. These figures indicate a plateau of development at or about puberty in this race.

Reference has been made to the excellent showing of the part-Hawaiian boys. The records are not shown on the graph because they do not represent a pure race but a mixed group. They lead all other races at nine years but drop into third place behind the Japanese and American boys at fourteen years of age. There is therefore, a tendency for their curve of development to flatten out with age in a somewhat similar fashion to that of the Filipinos.

Part VII

RACIAL IMPLICATIONS

Chapter XIX

SOME RACIAL THEORIES

In the consideration of the differences between races we may ask how these differences arose. Why should certain traits of character or temperament tend to appear more commonly in one race than another so that we come to regard these traits as being typical of a certain race? Why in such closely related races as the Chinese and the Japanese should we find such marked differences? It may be worth while to consider briefly some racial theories bearing on the subject.

There is one group of students of anthropology which discounts very largely the inherent character of racial differences whether mental or temperamental. These we may distinguish by the term "race-levellers" as they seem to regard all races as potentially equal, the observable differences being due, according to their viewpoint, to the immediate environment. The present dominance of the white race they seem to regard as accidental, or due entirely to favourable circumstances rather than to superior ability. While they do not deny that very wide gulfs separate the achievement of the various races of mankind they seem to think that education and a change of cultural surroundings would tend to obliterate these differences. These writers agree that there is little or no ground for any superiority complex on the part of the white race. As regards differences in capacity between divisions of the white race itself, they regard such a notion as either unproven or absurd.

The position of the race-dogmatists, as McDougall calls

them, is almost diametrically opposite. They hold that racial achievement is almost directly commensurate with racial intelligence, that the white race is dominant because of its superior intelligence and that the Nordic race is superior to all other divisions of the white race. We have already referred to one attempt to prove Nordic superiority by an analysis of the army test data.[1]

Boas is one writer who combats very vigorously the notion that the present attainments of a race are in proportion to its intelligence. He is not ready to believe that the less highly civilized peoples owe their lowly position to any inherent inferiority but considers that it is because they have not had the opportunity of rising higher. He points out that the history of man is a long story and that the more highly civilized races of today were, a couple of thousand years ago, in a state of cultural advancement much below that of primitive races as we now know them. His summing up is that "historical events appear to have been much more potent in leading races to civilization than their faculty and it follows that achievements of race do not warrant us in assuming that one race is more highly gifted than another."

Our own studies lead us to take the middle ground in this controversy. The progress of race is not entirely a matter of chance circumstances nor is it entirely related to racial intelligence. To borrow an apt analogy, heredity deals the player the cards but experience teaches him how to play them. But in the game of life, heredity means more than the mere dealing of the cards. We inherit also the capacity to learn to play them. It is the consideration of this dual role of heredity, of the fact that it means more than mental endowment but also the capacity to use that endowment which gives the position of the hereditarians such strength. Mental endowment is

[1] See Chapter XIII.

the primary or basic factor. If the individual lacks a certain basic level of mental capacity you may surround him with all the cultural or environmental stimuli that you will, and there is no progress. So education except of the very simplest kind is absolutely wasted on the idiot or imbecile and calls forth the most inadequate response from the Australian aboriginal. Where opportunity is denied or environmental stimuli are restricted there can be little progress even in the well-endowed. Such was at one time the case with Japan. Her geographical and cultural isolation was so complete that she remained in semi-civilized feudalism until the door of opportunity opened for her. But to take her marvellous advance as proof of the all-importance of cultural contacts would be to ignore the fact that there has been an open door and cultural contacts in the Philippines for a much longer period without any comparable advance. The present comparative status of the peoples of the two countries is, we believe, a fairly accurate measure of their inherent potentialities.

At first sight it would appear that the rapid rise in social status of the Oriental groups in Hawaii is proof of the greater influence of environmental factors in determining racial progress. The fact that in one or two generations the descendants of coolie labourers, imported under contract to do the most arduous and unskilled work in the cane fields, are filling high school and university classes, gaining records in scholarship equal to those of the sons and daughters of a highly selected and intelligent group of whites, and making their way by every possible loophole of opportunity into the skilled professions—surely this seems like the strongest proof that, given educational advantages, even the most poorly endowed racial groups may make their way, despite all handicaps of colour, custom and language. The selective conditions

that existed in the pioneering days of Australia, Canada, and other new lands have no parallel in Hawaii. In these countries there was a decided choice of the most vigorous, alert and ambitious of the population to form the vanguard of settlement. No such selective factors operated in the case of contract labourers. The tests for choosing such labourers were three—bare feet, calloused hands and ignorance of English. The first test indicated an ability to endure hardships, the second a readiness to do hard work, and the third desideratum ensured that the worker, for a time at least, would not come under the influence of labour agitators. But the gist of the whole matter lies in the fact which we have tried to demonstrate throughout this book—that these barefooted, horny-handed, ignorant labourers *were not* poorly endowed, but were rich in an inheritance of temperamental or psychosynergic traits that only needed the opportunity to make their weight felt in inter-racial and social competition. From what we have said about contract labour it is plain that the conditions were only slightly better than those of the American negro under slavery—yet what a difference in racial achievement. The Portuguese, on the other hand, if we may believe the description of the early arrivals, have made no such notable advance because their potentialities were so much less. Take groups of men of our own race, selected by somewhat similar tests, give them the same opportunities as were given the Orientals in Hawaii and the probabilities of their success in anything like the same degree, or the success of their descendants, are, in our opinion, very slight. In other words, it is undoubtedly true that though the word is over-worked, the older civilizations do tend to become "effete."

The argument of both the race and sex levellers that inequalities of achievement are entirely due to restricted

opportunity should surely begin to have a lessened value. Women's cultural advantages are probably at the present day equal to men's. If we accept the contention that woman's small achievement is due to the fact that she carries with her the load of centuries of repression, then that is tantamount to admitting that the disadvantage has become an inherent one. Racially too this is a day of greatly multiplied opportunities. Geographical isolation is by no means such a factor. There are no great continents unexplored, no large communities of people unvisited. There is no longer need to stress the environmental load. Where superstition or faulty ideals of government or interracial jealousies disrupt progress we are fairly safe in ascribing these to racial weaknesses in temperament or mentality. In short each nation has just about the religion or the freedom that it deserves to have. This does not mean that we believe that modern systems of belief and political organization are near the culminating point of wisdom. As a matter of fact they are only a few degrees less stupid than more primitive forms. It is saddening indeed to reflect in how many ways our practice or beliefs savour of those of the half-civilized races whom we affect so much to despise. Intelligence is very far from being the guiding principle in public or private affairs, as any intelligent self-survey will show. But because interracial differences are less in extent than we are apt to suppose does not prove their unimportance. We must remember that progress has never been except by painful inches, and that the slightest advance in the average of racial intelligence, if it be held and multiplied among the millions of common people, may mean the turning of a whole page of humanity's history. But pride of race may well be tempered by individual humility.

Race and sex levellers are also fond of reasoning from

the "overlapping" of race or sex, which is explained in the statement that the differences between one race and another, or one sex and another, are not as great as the differences between individuals of the same sex or race. Considering that ability in a single race or in either sex may range all the way from imbecility to genius it would be extraordinary if this were not so. Surely it is too much to expect that the differences between races should be as great as the differences between genius and stupidity before they may be considered important. Probably the best 60 per cent of negroes are the equals of the lowest 60 per cent of whites, but the fact of this amount of overlapping of the distribution of mental ability does not diminish the importance of the negro-white differences.

Similarly commonplace is the statement that interracial differences are no greater than differences due to social status within the one race. If we admit the interaction of hereditary and environmental factors then we shall see that differences in intelligence are in part due to differences in social status, and differences in social status are in part due to differences in intelligence levels. The advantage of the studies in Hawaii has been that one of these variables—viz. social status, has been eliminated so that differences in achievement are due entirely to inherent capacity for progressive adaptations.

The question now arises whether we can trace in the history of the peoples concerned the genesis of these inherent differences. Having agreed that the Japanese, for example, as compared with the Chinese have potential advantages, can we explain the differences in character between two such closely related races? We have seen that the Chinese are inferior to the Japanese mainly in the strength of their sense of group cohesion which naturally underlies racial planfulness and ability for group organization. The Chinese we have found to be distinctly re-

trovert in their tendencies. Other writers, including some of the most sanguine regarding China's future, have agreed upon this and have recognized it as a most important factor in national progress. Griffith Taylor in a recent paper explains the lack of development of the Chinese language in this way. "Their philosophy was eminently conservative, so that everything must be sanctioned by custom. The method of everlastingly looking backward for precept and guidance kills all progress." What Taylor does not appear to realize is that this tendency is inborn, for it is the outcome of the submissive retrovert temperament which is apparently subject as much to hereditary transmission as are the more intellectual qualities.

We have also noted the individualistic character of the Chinaman's ambitions and the more self centered direction of his efforts and aims. Ellsworth Huntington not only recognizes this quality but suggests a possible reason for its presence and development in Chinese character. He considers that one of the greatest factors in the decline of China has been the gradual deterioration of the people of North China in whom constantly recurring famines in over-populated districts have developed the passive qualities of economy, patience and endurance and a selfish attitude, rather than the more active qualities of initiative and leadership.

The conditions in Northern China are such that an intensely egocentric attitude is necessary for survival. Famine stalks the mass of the population so closely that if a man were to give way to any generous impulses, in the way of sharing his goods to relieve the sufferings of others, he and his family would pay the penalty with their lives. So an avaricious spirit becomes habitual and those who do not display it go to the wall. Then in the times of scarcity it would be the more alert and physically ac-

tive who would migrate southward and only a small proportion of these would return. Finally the family must be made the survival unit so that the best looking and probably the most intelligent of the girls are sold to ensure sustenance for the rest. Huntington points out that there are marked differences between the northern and southern Chinese and accounts for the distinction in character by the more rigid operation of these selective factors in the north. He says "The Chinese themselves have long recognized the difference between the south and the north. The people of the south, they say, are fond of travel, quick to grasp new ideas, eager to learn, easy to persuade, ready to change their habits, fiery in action and prone to adopt radical ideas in politics. Those of the north are fond of home, slow to accept new ideas, steadfast of purpose, hard to convince against their better judgment, tenacious of old habits, slow to act but very sure and prone towards conservatism in politics."

It is extremely odd that this contrasted characterization of northern and southern Chinese would serve almost exactly to describe the differences between the Japanese and the Chinese in Hawaii. The Chinese in Hawaii likewise exhibit the same passive virtues of stability, self control, prudence and self-determination and dependability, and their weaknesses are mainly slowness to adopt new ideas, a near-sighted planning capacity and a conservative or retrovert attitude. The Japanese like the Southern Chinese are eager to learn, somewhat more suggestible, ready to change their habits and exhibiting great group cohesion but with somewhat less dependability and tact. Yet the Chinese in Hawaii were drawn mainly from the south. But if the population in the south has been fed by migration from the north it would be the coolie class which would be recruited mainly from the less successful of the northern migrants so that eventually the

southern coolies would tend to be very largely of original northern descent.

It is somewhat difficult to account for the resemblances between the Southern Chinese of better class and the Japanese of lower social status unless we assume a racial relationship, or else similar conditions of life making for a selection of similar types. Deniker distinguishes two types of Japanese (excluding the Ainu) the ruling class who are slimmer and more dolichocephalic, and the "coarser" type who are thickset, more brachycephalic, with broad noses. He suggests that the former type entered through Korea while the coarse type to which the Hawaiian Japanese belong may be the descendants of invaders who about the seventh century are thought to have entered Nippon and Kiu-Siu from the south. In Dixon's classification of races—based it is true on some assumptions of very problematical validity—the racial constitution of the Japanese is nearer that of the southern Chinese than the northern. The Japanese of the central portion of Japan are predominantly Palae-Alpine which is also the type dominant in south China.

But, whether or not there is any close racial relationship between the Japanese and the southern Chinese, it would not be difficult to prove that conditions in Japan would tend to develop initiative, resourcefulness, and foresight to a large degree. There has been no doubt a rigid selective process in favour of people possessing these traits. Life in insular conditions provides some diversity of occupations. With the geographical limits of a country the size of California only 20 per cent of the land is arable. This meant that even by the most indefatigable energy enough food could not be raised by agriculture to support the population. The deficiency had to be met by fishing. Maritime pursuits in general call for more group organization and cooperation than does primitive agricul-

ture. Hence this diversity of occupation meant more avenues for the exercise of ingenuity and planning ability in the common people.

Another explanation for the difference in character between the Chinese and the Japanese may be in the racial origin. The Japanese claim a greater affinity with the Caucasian than the Chinese possess. The Ainu are undoubtedly Caucasian in type and there are probably some Indonesian affinities which may also lead back to the Caucasian. But as regards the "coarse" type of Japanese the racial affinity is somewhat closer to the Mongolian. But it should be recognized that the Japanese of every type apparently possess a virile, warlike, adaptable character which much excels in activity of temperament even that of the southern Chinese.

Huntington regards climatic conditions as being of the highest importance as factors in racial character moulding. In his opinion periods of aridity, extreme seasonal variations in temperature, influenced the character of peoples by making a selection in favour of the more alert or vigorous and of those capable of increased foresight, ingenuity or of determination and sustained effort. These are the conditions which Huntington describes as placing "a maximum survival value upon the qualities of mental and physical alertness, upon the ability to persist in the chase or in the search for water, upon the kind of mentality which takes thought for the morrow and that can utilize that great weapon and comforter, fire."

With these conditions may be contrasted those in either the tropics or very high latitudes. In the former, the situation is unfavorable for human development because sustenance is so easy that there is little or no call for the exercise of forethought and ingenuity nor are the conditions such as to favor long continued or arduous exertions. The means of bare subsistence are obtainable with

less effort than anywhere else. In addition the prevalence of tropical diseases usually prevents over-population, thus diminishing the effect of another factor in the selection of the more active types. In high latitudes the extreme cold and the rigors of existence in general put a premium on the possession of the more passive traits of sluggishness, capacity for sheer endurance, the more nervous restless types being weeded out. One has only to imagine what the life of the Esquimaux must be to realize what an asset an infinite capacity for inertness must be. As it is, the strain of the long winter is such as to result rather frequently in a form of psychosis among the less temperamentally stolid of the people.

Owing to the famine conditions in China there has been a similar selective process in favour of the patient, enduring, passive types.

In order to give weight to the influence of climatic conditions on character we must also assume that there is a tendency for the individual, who is possessed of temperamental qualities favorable for survival, to transmit these qualities to his descendants, so that they ultimately become woven into the warp and woof of national character.

No matter how it is to be accounted for, the fact that the Japanese possess certain advantages over the Chinese is indubitable. We may either conclude, as previously suggested, that originally they came of superior stock, or else we may look for the key to Japanese character in the cumulative effects of factors in environment making towards a natural selection of those possessing planfulness, originality and self-dependence, qualities that have been tempered all the time by a strong sense of individual responsibility to the group, which is essential to successful social organization. The latter conditions are again to be touched upon in the next section.

Before leaving this brief survey of recent racial theories

we would refer to the question as to whether there are any biological advantages possessed by certain races over others. Are there any physical marks other than larger brain capacity which distinguish the inherently superior races?

There is one theory now being prominently advanced that the round-headed or brachycephalic races represent the highest evolutionary types. Huntington in summarizing the views of Dixon and Griffith Taylor states that "The most primitive heads are long and narrow and low with small brain capacity. As man has evolved his head has tended first to lengthen from back to front, then to become higher and finally broader. Thus there has been a series of steps towards a round head. "Such a head is biologically the highest and most specialized because it can hold the largest brain in proportion to its surface and weight." The inference therefore is that the future lies in the hands of the round-headed races. Griffith Taylor, the Australian geographer, has by means of a series of ingeniously drawn maps tried to prove that the interiors of the continents are inhabited by broad headed peoples, the long heads having been thrust out into the marginal fringes and mountainous peninsulas and island groups, where they have survived because of their isolated positions freeing them from competition with the more highly evolved, broad headed people.

In passing it may be well to consider briefly the evidence that the latter races are superior. It apparently rests on the statement previously quoted that the round head can hold the largest brain in proportion to its surface and weight. This statement is extremely difficult to understand as it runs directly counter to common sense. In the first place the weight of the brain is naturally proportionate to its size or volume, whether it be long or broad. The specific gravity of brain substance is about

the same in every brain and so size and weight are relatively proportionate, regardless of shape. In the second place, having "the largest brain in proportion to surface" is very far short of being a biological advantage and is in fact the very reverse. It is perfectly true that the long narrow and high brain vault will contain a greater brain surface in proportion to size than a round cranial cavity. But this is an advantage. As is well known the grey matter containing the nerve cells is distributed over the surface of the brain, and Nature has done everything possible to increase the surface of the brain in proportion to brain size. She has done this by infolding the brain surface upon itself into convolutions or gyri. Increased surface therefore means a greater proportion of grey to white matter. The white matter consists of countless bundles of nerve processes connecting the nerve cells with one another and with the rest of the body, certain nuclei which are probably relay stations along the nerve paths, and a non-nervous supporting tissue called neuroglia. Increased nerve cells in the grey matter means increased nerve processes and pathways in the white matter, so that in a small efficient brain the proportion of neuroglia must be reduced. The explanation of the fact that small brained super-intelligent people occur probably lies in the fact that they possess brains with large surface in proportion to brain size. Simplicity of convolutions with lessened brain surface has been long known as a mark of simplified organization of the brain. One of the differences between the brain of the anthropoid ape and that of man lies in this simplicity of convolutions. Hence to have a large brain in proportion to surface is a positive disadvantage incurred by the brachycephalic races.

The Mongolian imbecile—a well known form of feeble-mindedness—is in the great majority of cases, extremely round headed but this is surely no evidence of a high de-

gree of evolution. The assumption that the brachycephalic races have the largest brains is absolutely unfounded. Naturally brachycephaly, being a ratio of two measurements only of the head, has nothing at all to do with brain capacity. As a matter of fact brachycephaly has nothing to do with absolute breadth of head either, but means only *relative* broad-headedness. It may be due as in the Mongolian imbecile, to absolute deficiency in length of head and not to greater breadth. To classify races together on the basis of cranial index alone may mean that we are grouping together races at the very extremes of brain development.

In speaking of the biological advantages of broad-headedness these writers appear to overlook its disadvantages as increasing the difficulties and dangers of child birth. If human evolution proceeds in the direction of increasing breadth of head it would necessitate changes in pelvic conformation of the women of the race in order to make parturition easy. On the other hand height of head can increase without affecting the difficulty of child birth, so that Nature in seeking to endow man with a larger brain has followed the lines of least resistance by developing the brain in this direction Hence the most significant difference between the more primitive and civilized skulls is in height of head.

Thus when Griffith Taylor speaks of certain races having the "honor of the highest cephalic index" we may consider it a very doubtful honor. Or when Dixon suggests that the brachycephalic type and especially the Alpine have biological advantages over the dolichocephalic "which they would tend in the long run to dominate," we may look for the advantages, if any, in other directions than in their relative broad-headedness.

In this connection it may be well to point out that our figures for the cranial index of Japanese differ materially

from those given by Deniker. He gives the cranial index of the southern Chinese as 81.2 for living subjects, that of the northern Chinese as 77 (based however on twenty subjects only). For Japanese of all classes the index is given as 78.5 which would apparently bear out the relationship of the Japanese to the northern Chinese. Our data, though based on children only, is much more extensive than Deniker's and shows a very different result. Our results based on 1307 cases in all shows the average cranial index of the Japanese to be 86 as against 83.5 for the Chinese. Hence the Japanese in Hawaii are distinctly more brachycephalic than the Chinese. There is some tendency of the cranial index in both races to decrease with age—in short to become more dolichocephalic, which contradicts MacAlister's assertion (quoted by Taylor) to the effect that in individual growth the tendency is towards brachycephaly. The differences between Deniker's figures and our own are evidently due to the fact that the groups measured are not comparable samples of the population.

Hence instead of classifying the Japanese as subdolichocephalic it is evident that the lower classes at least are distinctly brachycephalic whilst the ruling class is long headed. This does not seem to bear out the view point of the inherent superiority of brachycephals. It also deals a blow at the theory of the thrusting out of the dolichocephalic people into the marginal fringes. Neither in the British Isles nor in Japan does the migration to these countries represent a thrusting out by superior peoples but rather the adventuresome sallying forth of the more alert, ambitious, temperamentally antevert types who found and conquered a country suitable in all ways for their development.

Chapter XX

RACIAL FUTURES

The demonstration of significant racial differences in certain temperamental traits leads us back to the consideration of the relation of these differences to the social adjustment of the races and also to the discussion of some of the practical implications of our conclusions.

The strength of character exhibited by the Japanese in Hawaii has already been illustrated in Chapter IV. It has been evinced in the tenacity of purpose displayed in establishing and maintaining their own schools, so that by means of their language a link might be kept between their children's interests and their homeland. Their planning and organizing ability is shown by the fact that collective bargaining was enforced on the planters by the Japanese labourers in a way that no other group was successful in doing. Better working conditions were demanded and obtained by their organized efforts. No other race has exhibited strength of purpose and a heightened race consciousness to the extent of refraining from marriage with the native Hawaiians or with other races. Whites and Chinese alike have intermixed freely with the native women, but the Japanese have kept themselves almost rigidly apart from inter-racial unions. What motive, patriotic or otherwise, would keep white men of the lower social grades from mixing with the native stock, especially if denied the opportunity of marriage and contact with women of their own race? The Japanese restraint in this particular, whatever its reason, is nothing short of remarkable. It may be interpreted as proof of a tendency to follow unswervingly a premeditated policy.

That the Japanese as a whole tend to possess an extremely well balanced temperament may be deduced from their social adjustments. No other race in Hawaii is so law-abiding. This conclusion may be reached whether we consider the records of either juvenile or adult crime. Not only are less children of this race found in the industrial schools, but in the ordinary schools very few of them ever become "problem" cases through temperamental imbalance, nor do they have their expected quota in the feebleminded institution in the Territory.

Japanese adaptability to business situations—a capacity very largely dependent on foresight—is shown by the success of their commercial ventures and by their material prosperity. On all sides we find testimony to their readiness to adopt and adapt Western methods to their own advantage. Their foresight is shown by their desire to obtain education and their doggedness and resolution by the strenuous efforts and sacrifices made to attain this aim. Whether in the primary school or in the University class room, the attitude of the Japanese student is marked by such earnestness of purpose that discipline externally imposed is almost unnecessary. Their ambition is high and their courage in overcoming difficulties fitly matches their ambition. Though clinging strongly to their own racial standards they show resistance to suggestion from other sources. In short, though adaptable they are not suggestible. As a group they have not learned to conciliate and are, in fact, somewhat aggressive and unscrupulous in pursuing an advantage.

Their ambitions, unlike those of the Chinese, extend to the social standing of the group as a whole. They are extremely sensitive to any imputation of inferiority. Politically speaking they follow a policy of biding their time. In this respect they have shown considerable astuteness in refraining from registering as voters and ex-

ercising the franchise in Hawaii. More than 60,000 Japanese have been born in Hawaii and are therefore American citizens. At present there are not enough of voting age to control the situation, so that any political action might serve as an aggravation and might defeat their own ultimate ends. That this political "hands off' policy is not due to any excess of submissiveness on their part is shown by the tone of the articles in the Japanese local press whenever there is any apparent infringement on their rights—as for example in their discussion of the enforced curtailment of activities of Japanese language schools. There is little doubt in the minds of those who have observed these people most closely but that they *do* intend to play a large part in the political affairs of Hawaii; yet we may be equally sure that it is no part of their plan to waste their strength in futile action before the period when their full weight can be brought to bear. Such a policy of watchful waiting is, of course, entirely within their rights to pursue. There is no hint of political duplicity or unwarranted ambition in their case, and as American citizens it is their duty as well as their right to play their part in the government of the Territory. All that we wish to point out is that, although not at present using their political weight, they constitute forty per cent of the population, so that ultimately they will be the strongest political unit. It is ridiculous to suppose that they will not exert this power. It is possible, however, that Japanese adaptability is so great that by the time they are ready to exercise their franchise, there may be a fairly wide gulf between the ideas and the policy of the Hawaiian Japanese and the Japanese in Japan.

No such political racial bloc is anticipated with regard to the Chinese, whose present political inaction is due to indifference rather than to policy. Their characteristics are in some respects in marked contrast to those of the

Japanese. They lack the latter's genius for organization, their ambitions being rather individual than general. They are more interested in acquiring money than in improving the social or political standing of their group as a whole. To this end they exhibit remarkable thrift and patience, but their position is improved by steady accretions rather than by any bold strokes of policy.

Individually they are not so pronouncedly introvert and self-contained as the Japanese, and are decidedly retrovert in their habitual attitudes. They lack the ready adaptability of the Japanese but gain in stability through their customary conservatism. In general their history in Hawaii indicates a considerable suggestibility and submissiveness to authority. They lack that aggressive and resolute spirit so characteristic of the Japanese temperament. Even in their choice of occupations there is a marked tendency to move along more or less familiar paths. Chinese persistence is really patience born of tradition and long usage, while Japanese determination is the fruit of new-found ambitions and aims. One feature which denotes Chinese superiority in one direction is their greater dependability. In business relations especially, they cling fast to traditional honesty and are usually trustworthy to the furthest extent.

As regards scholastic ability the Chinese, we believe, have some advantage over the Japanese. Their variability in this respect is probably greater than that of the latter race. Cases of outstanding ability are by no means rare. It is only when we consider the body of students as a whole that the Japanese tend to equal Chinese capacity.

The Portuguese individually have shown considerable progress but they also lack the group cohesion of the Japanese. They are slower in adapting themselves to new situations so that their general planning capacity must be considered as somewhat inferior. They too are thrifty

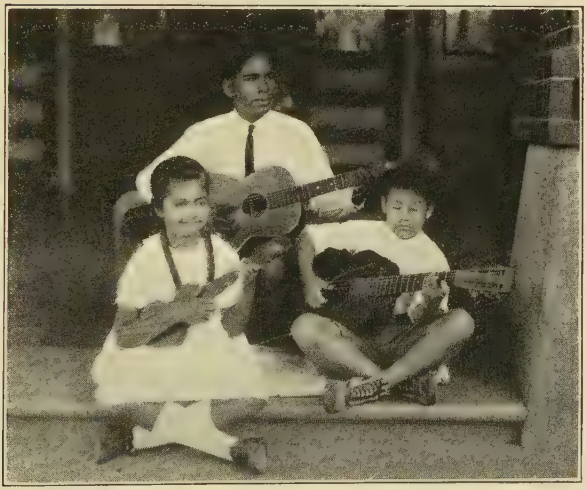
and industrious but lack the resolution and determination of the Japanese. They are not emotionally well-controlled, are very suggestible, and possess that impulsive extrovert attitude so widely characteristic of the Mediterranean people. They are also very variable, like the Chinese, the extremes of ability being well illustrated in their case. Their mechanical aptitudes are well developed and they show a tendency to gravitate towards the skilled trades. Educational opportunities are, however, not held in such esteem as in the case of the Oriental races. Impulsiveness is probably one of their worst defects.

The above summary is founded entirely upon a consideration of the record of the various races in Hawaii. Ample confirmation of these conclusions is provided by an appeal to present day experience as reflected in the application of the social ratings scale. The Japanese were shown by this scale to lead all other races in planning ability, resolution and stability; they were about equal to the Chinese in self-control and prudence but rather inferior to them as regards resistance to suggestion and dependability. They are markedly inferior to them in tact, being considered rather aggressive and obtrusive.

The Portuguese high points are in planning capacity, stability and self determination, in all of which, however, they rate lower than the Orientals. Their low points of character are in resolution, self-control, prudence and tact, Almost the reverse characteristics are found in the Hawaiians, who lack planning capacity, stability and self-determination (resistance to suggestion) but are, in comparison, more resolute, self-controlled and conciliatory. Porto Ricans and Filipinos vie with one another for the invidious distinction of being last on the list in almost all traits.

Considering now the mental test results we find that no very significant differences exist in tests of the Binet-Si-

RUSSIAN GROUP



PART-HAWAIIAN GIRL, HAWAIIAN BOY,
CHINESE BOY

mon type, nor apparently is there any very marked difference in school educability between the races. These comparisons were carried out for four races only. The Hawaiians showed some evidence of a precocity of development, an advantage not maintained in later years.

The application of tests of temperamental capacities again revealed a distinct advantage in favour of the Japanese. They lead all other races in Hawaii at every age and are even superior to the average American boys up to about twelve years of age. As far as these tests measure planning ability, prudence and self-control, and ability to adapt themselves to a new situation, there is no reason to doubt Japanese superiority. Finally the Japanese in head size and brain capacity showed an unsuspected superiority, age for age, over the Chinese up to fifteen years when our measurements ceased. This advantage is not to be attributed to a general superiority in body size, the comparison in this respect tending to run against the Japanese.

As regards sex differences within the one race the case parallels the racial situation. The sexes differ markedly in practical achievement but do not differ significantly in tests of learning capacity or capacity for abstract thought. But there are significant differences between males and females in temperamental tests and also in brain capacity. There seems good ground for assuming therefore a relation between temperamental capacity and practical achievement, and both are apparently conditioned by brain size. The relation between temperament and brain development cannot of course be demonstrated but at least there is some evidence for the belief that the increased stability that normally develops during adolescence—that greater tendency to use care, prudence and planfulness and preconsideration that marks maturity—is actually related to a brain growth that takes place in the same period and which is not apparently connected with any increase of learning

capacity. Support for this view is lent from the fact that the socially defective, whose shortcomings are so markedly temperamental, do not participate to a normal extent in this late adolescent development.

Some of our conclusions are based on group, others on individual data, but we believe that it is perfectly proper to combine the two methods in this way. We are fully aware that the group may appear to mean something more than the mere aggregation of the qualities of the individuals who compose it. A simple illustration of the difference between group and individual psychology [1] may be seen in our moral attitudes. The crowd is, in its ordinary reactions, more moral, has higher standards than the individuals who make it up, so that public opinion is always a restraining influence. Conversely, under conditions of emotional stress, the crowd may appear more immoral than the individuals who compose it. But this difference between the crowd and the individual is really more apparent than real, and may be due to the fact that individual analysis is so often concerned merely with the high lights of character and not with the less apparent traits. Hence an insufficient analysis of individual tendencies is often the reason why we cannot always predict the action of the group. Our contention is that it is just these temperamental traits that are frequently neglected in individual analysis, and a proper evaluation of them would give us the key to many national or racial trends not otherwise fully comprehensible.

Having drawn together all our various lines of investigation we find them all pointing to the fact of superior endowment in the Japanese over all the other races studied.

[1] The difference between group and individual behavior is simply the difference between a small flame and a large fire. The crowd's tendencies are merely the tendencies of the individual reenforced by imitation and raised to the nth degree. There seems no need to assume the existence of a group mind.

What then is the conclusion that we should reach as to the bearing of these advantages on inter-racial competition and especially with regard to our own relations with Japan. In the first place a warning is needed against those who would cry peace when there is no peace. Some representatives of religious organizations are especially prone to minimize the fact of racial competition. They would like to believe that we are already approaching a golden age of universal fraternalism and inter-nationalism and that a Christianized world will show no inequalities due to race or colour. These leaders are ably backed up by certain anthropologists who would also minimize the effect of race on progress and achievement. Their one-sided attention to certain ethnological data leads them to neglect much of the evidence that points towards the importance of physical differences, and they also tend to regard all demonstrated differences in character or intelligence as being due to varying educational advantages. Our reply is that whether apparent or not there is going on a ceaseless racial struggle for dominance that no number of platitudes about brotherly love will obviate; and secondly that this struggle for dominance is by no means waged on equal terms. But in discussing racial strengths and weaknesses we assert that the differences between races that are of importance are not merely differences in mentality, but differences in mental energy to which emotional, volitional and temperamental traits contribute. These psychosynergic traits we consider to have become engrained in racial character through heredity, environment inter-acting to select and perpetuate certain temperamental types. As regards the physical basis of these differences we are inclined to follow the suggestion of Keith that they are due to variations in hereditary endocrine balance and action. Here again we may relate this theory to environmental factors. Stockard believes that men

may become very largely the creatures of their habitat as for example the high iodine intake in coastal areas may determine the endocrine balance and so affect the physical and temperamental type. Our main thesis is that along with intellect, psychosynergic traits underlie racial achievement and are hence among the main factors in racial progress and survival.

At this point it may be worth while to sum up some of the material advantages which Japan has possessed and which may give some hint as to the basis of her racial strength. In the first place she has enjoyed certain advantages of comparative isolation, with a not too overcrowding population. If immigration was difficult, so too was emigration. There was no weakening of the national fibre then by the outpouring of the most alert and ambitious of her people. While not cut off from infusions of new blood, invasions took place at such long intervals that there was time for the stabilizing of the new elements to take place. The benefits of race mixture are apparent only when the process of hybridization is so complete that the mixed bloods are so numerous as to lose all stigma of inferiority. Apparently a certain chronological period of stability is necessary before racial temperament can become fixed and distinctive by inheritance.

The small size of the country has also been of advantage. It does not seem apparent to some students of historical events that a nation can be too huge and unwieldy for united, effective action.[2] Countries that embrace different zones of climate will also have division of economic and industrial interests, resulting in differences in mental outlook among their people. Civil wars have

[2] We might point out, for example, that if all the people in the U. S. A. who are favourable to the League of Nations could enter it, they would constitute one of the most numerically important and powerful nations in the League.

therefore, tended to occur in just such conditions. It was the North against the South of America and the North against the South of China. Japan, like the United Kingdom, is a territory of 'tight' little islands. Hence when the wave of Western ideas entered Japan it maintained its force instead of being expended over a vast area, nor did it need to infiltrate many social strata before it could reach the level of the population at large. In this connection the persistence of a feudal system down to a late period was a positive advantage because it made the new social renaissance easier. Contact between different classes, between the leaders and the led, was sufficiently close to enable the new enthusiasm for progress to spread rapidly. There was no inertia of vast bulk to be overcome, the nation itself could march.

Another factor in the progress of Japan was the fact that her awakening took place just at a period when civilization was ready to step forward into the new age of discovery and invention. As regards all material progress it was a period of full tide.

But the enumeration of these natural advantages, while they may go far to explain the rapidity of Japan's rise, need give us little cause for fearing her competition if it were not that she possesses other advantages, more subtle, but perhaps more powerful. While we are not alarmists we recognize that a serious situation confronts the dominant white race.

Madison Grant[3] is one author who takes the most pessimistic view, regarding the future of the Nordics, as the following quotation shows: "It would appear that in all those parts of Europe outside of its natural habitat the Nordic blood is on the wane from England to Italy and that the ancient acclimated and primitive population of Alpine and Mediterranean race are subtly reasserting their

[3] Madison Grant—The Passing of the Great Race.

long lost political power through a high breeding rate and democratic institutions." The factors in this decline, as Grant sees them, are that the Nordic element in such races as the Anglo-Saxon, in both its branches, form the fighting section, causing a disproportionate loss of life for this race; emigration also takes its toll of the adventure-seeking Nordics. He also considers modern industrial conditions more unfavourable to the Nordic physical type and that tuberculosis and alcoholism are also two great factors in the racial decline of the dominant race.

Against these undermining weaknesses we may contrast the Japanese position. Their birthrate is high and there is apparently no differential birth rate in favour of the lower social grades. The Japanese physical type, which is long trunked and short limbed—mesomorph and hypomorph as Bean[4] terms them—is probably better suited to present industrial conditions than is the longer limbed Nordic. There may also go with this mesomorph type a lessened tendency to tuberculosis, the white man's scourge. Alcoholism is not what one would call a national vice of the Japanese but syphilis is common. This latter is a racial poison with most serious effects both as regards the individual and the race, but army experience has shown that it can be controlled by proper measures and doubtless the Japanese government is alive to its menace.

But the western races have been heavily handicapped in other directions. During the last four hundred years they have been carrying the burden of an almost endless struggle for liberty. Religious wars and persecution alone have taken a great toll of precious lives. America alone has fought two great wars of principle at immense cost to the flower of her people. Japan during all this time did not raise a hand nor strike a blow in these great causes.

[4] Bean, R. Bennett—Types of Man in the Yellow-Brown Race. Am. Jour. Anat. March, 1925.

She has become the inheritor of all of the ideals of our time without any greater cost than the labour of understanding them.

But perhaps the heaviest handicap that western civilization still carries is the humanitarian impulse. Side by side with the growth of medical science has been the development of this impulse towards preserving and perpetuating the unfit. The burden of controlling or caring for the dependent, the insane, the defective and the criminal becomes annually greater. Jails, hospitals, clinics, asylums, courts, and all kinds of social agencies have multiplied immensely during the past twenty-five years, and still the work of conserving society is imperfectly done. In some quarters there are signs of an awakening hostility to spending so much money on apparently endless socialization schemes, but what can be done about it? The holes in the social fabric must be plugged even if new ones appear tomorrow. All that we can demand is that we discard this thinly diffused sentimentality, which masquerades as charity, and especially to have done with the idea that social work is properly an adjunct of ladies' bridge parties and afternoon teas. This is no longer the day of the well meaning amateur but of the rigorously trained and selected social scientist.

We are well aware that many people are ready with a panacea for all the social problems that burden our time and race. Madison Grant believes that sterilization provides a remedy that would eliminate all our social failures in a century and empty our jails, hospitals and insane asylums. "This," he says, "is a practical, merciful, and inevitable solution of the whole problem and can be applied to an ever-widening circle of social diseases beginning always with the criminal, the diseased and the insane and extending gradually to types which may be called weaklings rather than defectives and perhaps ultimately to

worthless race types."[5] This is undoubtedly a large program of social reform but all it needs, unfortunately, is the application of the wet blanket of common sense. To place such wholesale dependence upon sterilization as a social remedy is to put an unwarranted and unscientific emphasis upon heredity as the cause of these ills. Most of the work in social heredity has been done with regard to mental defectives but the most famous and widely accepted studies in this direction need very thorough revision in the light of our present day knowledge.[6] *The work was done at a period when the accepted studies of feeble-mindedness would have proved over thirty millions of people in the U. S. A. mentally defective with, of course, a tainted family history.* This is absolutely unbelievable rubbish, and the people who seriously quote these studies should spend a little time in consideration of the U. S. army examination results to see how necessary the scrapping of those standards was.

Our experience with defectives in institutions would indicate that not more than 25 per cent of such cases have one or both parents feeble-minded. If we assume that 60 per cent of them would show mental defect in the family history it is, in very many cases, not in the siblings but in the collateral branches that it appears. To prohibit all the members of a family who have a latent defect from procreating would rob the world of very many thoroughly normal people in order to save the world a few defectives.

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[5] Passing of the Great Race." p. 51.

[6] It is noteworthy that in many of these studies the evidence upon which the family history charts were based was never published. If it had been it would have shown a most unmistakeable bias on the part of the field workers who collected the evidence. A few extracts from some of the reports with which we are familiar would be ample to prove this statement. One report spoke of seeing a little girl of nine years of age who was a lithe, rather graceful little thing, but her eyes had "the unmistakable look of the sex pervert." (!)

How many normals equal in social value one defective, Madison Grant does not tell us. With regard to criminality the case for heredity is still more doubtful. It would take a lot of book writing to convince common sense people that opportunity as well as heredity does not have its share in making the thief. The wiping out of all stocks with latent defective, criminal and insane strains is a counsel of perfection which we can never follow. To speak of sterilization as a remedy that would get rid of these social problems in a century is to speak without knowledge of the multiple factors that enter into the causation of feeblemindedness, insanity and crime. To include physical "weaklings" under the same drastic remedy is to put an emphasis on physical brawn and fitness that is wholly unwarranted when we consider the amount of the world's work that has been done by "weaklings." In this regard the claims of the nutrition workers in schools need re-valuating. One would almost believe from their excitement over stimulated gains in weight that fat and not brain tissue ruled the world.

Sterilization, legally safeguarded, when applied to defectives with anti-social tendencies who cannot be institutionalized, and to the worst types of sex offenders is, we believe, a sensible measure, but will by no means rid the world of its troubles. It will, however, provide a small measure of directed selection which may partly take the place of that natural selection which medical science, both curative and sanitary has largely overcome.

Summing up the situation we see at once that Japan has enjoyed wonderful advantages. During the centuries when the white races were exploring the furthermost seas and territories of earth, and paying tribute with valuable lives to the spirit of wonder and adventure; while their blood was being poured out without stint in the causes of religious or political freedom; while capital and industry

together were being spent with prodigality to make transportation safe, and communication easy, and to provide short cuts for labour and thus create leisure for scientific pursuits; while the deadly scourges of earth were being combatted at infinite cost; while civilization was evolving humanitarian policies and through hospitals and antiseptic surgery, sanitary science, and the establishment of all kinds of charitable institutions has been making possible the survival and maintenance of the unfit—during all this time Japan remained dormant and unexpressive. Knowing nothing of all this much vaunted progress, she was conserving her national strength through the elimination of her unfit by natural eugenics. Now at one stride she steps forward into the front rank of nations, inheritor of all the fruits of the effort and wisdom of the Western mind. With all due credit to her wonderful adaptability, Japan still owes an immense debt to a civilization not of her own development. She is the sleeping princess, the Cinderella of nations, suddenly awakening to a power and mental affluence beyond her dreams.

This being so what should be our policy towards her? In the very important question of the dominance of the Pacific, Japanese competition is very much to be reckoned with. There are many, of course, who will attest the good faith of Japan and the altruism of her policies but, as we have seen, the Japanese can exhibit a thorough goods-and-chattels honesty side by side with deep laid schemes for ultimate advantage. Not that this is morally reprehensible, for what may be regarded, if discovered, as underground scheming, may be hailed as the shrewdest foresight if it attains its ends. Despite all of Japan's protestations we believe that her ambition is by no means dormant, and that her policies are very shrewdly shaped and hidden behind a mask of inscrutability. While we would avoid the camp of the militarist we cannot believe

in the notion so carefully fostered by missionaries and other trusting folk that Japanese character is entirely frank and simple and her intentions mild and pacific. There are others who aver that while Japan has ambitions she is too poor to pursue them, but these people forget the enormous disproof of the too-comforting theory of a few years back, that there could be no great war because of economic reasons. We should also remember that Japanese astuteness which prompted her to seek and maintain an Anglo-Japanese alliance may also cause her to ally herself with Russia, another great unknown quantity in world affairs. He would be bold indeed who would say that Japan will find no allies in the impending struggle of East against West. But, above all, for the sake of cool thinking, we must cast out of our minds all indignation, righteous or otherwise, because of Japanese aspirations. She has as much right to plan for the domination of the Pacific as the white race has. That she occupies a good strategic position there is no doubt. Japanese population in Hawaii has increased 57 per cent during the last fifteen years. She is also initiating a policy of colonization in South America and Mexico where the number of her immigrants is rapidly increasing. In all probability Japan's frontage on the Pacific will be wide enough without admitting her to a footing elsewhere. Our personal opinion of the inherent advantages that the Japanese race enjoys is so high that we would entirely favour a policy of rigid exclusion from Canada, United States and Australia. If, however, we wish to avoid racial rancor and bitterness it is well to state the grounds for this exclusion exactly as we have done so, and not from the standpoint of an unfounded racial superiority complex. But there should be no hesitancy in stating the claim that these lands have been pioneered and developed through the determination of the men who pressed forward into their silent places, and by

the devotion of the women who followed them. These lands belong to the white race by right of peaceful conquest, and they shall not be given up to the inroads of a race whose standards of living have been shaded down by grim necessity to survival levels lower than our own.

It may be that time will equalize some disadvantages. Japan's adaptability may prove a two edged sword and turn against her so that her people may ultimately conform to the practices of birth control and humanitarianism, and at the same time experience some of the disintegrating effects on race solidarity of democratic education; but for that the time is not yet.

In the meanwhile the Nordic strongholds in America and Australia must be developed and maintained. To throw them open to the dangers of Japanese penetration, peaceful or otherwise, would be to pursue a policy of race suicide in a direction even more effective than those in which we are wont to practice it.

Chapter XXI

EDUCATION AND TEMPERAMENT

In outlining the strength of the Japanese position we are far from suggesting that the only safeguards against racial submergence are military fortifications and political compacts. The white race may still recede in spite of these, for such safeguards may merely serve to conceal weaknesses rather than to obviate them. The external threat is not the only one. Racial vitality may be sapped as well as swiftly battered down and it may be the lines of internal defence that crumble first. Trite though the saying is, the strength of a nation resides in the character of its people. The purpose of this concluding chapter is to emphasize again the relation of temperament to personality and to enquire as to what means can be taken to strengthen our racial position by fortifying individual character.

Our application of tests of temperamental capacity has brought to light some significant differences in racial performance, and in the last section we have stated the conclusion that the Japanese in planning capacity, resolution and self-control, as far as these traits are examined in the maze tests, are superior to all other racial groups. Here at last we have something which correlates with the observed differences in social adaptability of the races and possibly with the demonstrated differences in brain capacity. Evidently there is not, at the mental levels with which we are concerned, as much connection between tests of general intelligence and social adaptability of races as there is between tests of temperamental traits and social

adjustments. As we have previously indicated, we believe that the so-called general intelligence tests are better indications of school proficiency. But even at a higher level of education there does not seem to be a very close connection between social success and school efficiency. A recent study by Gambrill showed very little relation between scholastic standing and earning capacity twelve and one half years after graduation. If, then, psychosynergic traits are of such importance at the higher educational levels, it is likely that in the mass of men whose level of functioning is in the mechanical and industrial fields, they are of even greater importance. Such men may have but little call for scholastic abilities but their every day success makes constant demands for foresight and ambition, stability, self-control, and the dogged resolution and earnest effort necessary for the acquirement of greater skill in their chosen occupations.

If we are ready to concede the importance of these psychosynergic traits we must find an adequate place for them in our testing program. That development which the ordinary tests of all-round ability measure and which ceases at about fifteen years, cannot be considered synonymous with intelligence because it does not take into consideration that balanced and sane reaction to the entire world of things, ideas and persons which Freeman so rightly emphasizes as being of supreme importance and which we believe is closely related to the temperamental traits. Whether these traits—volitional, emotional, temperamental and the like—should or should not be included under "intelligence" is beside the point. The important thing is that even if we consider them outside the scope of intelligence they are of great value in individual adjustment and must be taken fully into account when we attempt to take the measure of a man. To judge races or individuals without an evaluation of these factors is to

base general conclusions on very partial measures. Our own study does not of course present a comprehensive evaluation of racial differences as regards these factors, but at least it serves to show that races adjudged equal in mentality may exhibit marked differences in temperament and character, differences which very materially affect their social adjustment in the nation or community at large. All that is claimed for the maze tests is that they give us an approximate measure of some of these traits in a way that apparently no other tests do.

These traits evidently have an organic basis and are thus part of man's original endowment. To what degree they may be reacted upon and modified by environmental factors is of course impossible to prove exactly, but the general assumption seems to be warranted that they are more susceptible to training and to the influence of experience than the purely intellectual traits. The history of many of the defectives at the Vineland Training School provides many instances of complete changes in temperamental and moral traits as the result of long training and habituation to a wise and kindly discipline. If this can be done when there is no reenforcement of the discipline by an appeal to intelligence of a high order, it should be possible still further to modify temperamental traits in individuals of a higher level, where support may always be looked for from the intellectual side.

This malleability, this responsiveness to the environment would seem to be a very fair indication of the actual value of the modifiable traits to the individual in his present stage of development. That which seems set or unalterable by decree of Nature may be so because in its present form it serves some fundamental need that has been sufficiently met for Nature's purposes and hence the form is not worth changing further. On the other hand that which is still susceptible to environmental influence

evidently has a value in the present or future development, or education of the individual. In the quadrupeds we see a very great differentiation in the hind limbs of different animals for the purposes both of flight and defence. When man assumed the erect posture the adaptability of the hind limbs soon ceased, the hands and the arms assumed most of the self-protective functions and began in their development to make a structural response to the new demands put upon them. Similarly the very complexity of the central nervous system is an evidence of the extent to which it has remained responsive to environmental demands, so that the extent of present adaptability may well be made a measure of the future value as regards the adaptation of the organism as a whole. If the analogy can safely be carried over into the intellectual field, we can assume that such a thing as memory, which is an inborn capacity not markedly affected by training, is something which in relation to man's whole history has proceeded as far as it need develop for essential purposes, and is therefore of less importance to man's future needs than those qualities still susceptible to environmental influence.

If this be so then we must set a new value on education and the educable traits. Particularly must we recognize the value of that education which the discipline of life confers. If the temperamental traits of doggedness, perseverance, resolution and determination may be sharpened by circumstances then we must, in the sphere of education, assign full values to these circumstances. The acceptance of this conclusion may throw light on many things otherwise hard to explain. For instance, it has been recently remarked that the proportion of minister's sons who reach that stage of notability indicated by a place in the American "Who's Who" is much larger than that of the sons of men of other professions. The reason is not far to

seek. Ministers' sons receive a mental endowment presumably equal to that of sons of other professional men, but are certainly not equally endowed with the world's goods, for at the time when the present notables were young the clerical profession was of all the least lucrative. The son of the manse or the parsonage, if he were to succeed at all in getting an education or in carving a career for himself, could only do it by his own unaided efforts. Those who swam with the current did not get that training in self-discipline, and did not feel the call for stamina, initiative, and resourcefulness which came to others less fortunately situated. We may ascribe some value if we will to superior moral training, but this is a somewhat doubtful factor; for ministers' sons are proverbially "bad eggs" and are usually as much noted for irreligiousness as for anything else. In this respect they are like the cobbler's children who are usually ill-shod. As there is no reason to believe that ministers' sons inherit any superior mental endowment, the conclusion seems inevitable that their comparative success is largely due to the self-reliance and the spirit of independence that the struggle for opportunity engenders. Here again nature and nurture, of course, interact. It is a case of to him that hath by nature shall be given the most that nurture can bestow. Conversely, hard circumstances select the inefficient also, so that if we had a Who's Who of ne'er-do-wells it is probable that ministers' sons would also be over represented there. To make the path of the potential genius easy is to rob him of that discipline which his nature needs. Only adversity can bring to light that ruggedness of nature and indomitable spirit which we so much admire in the life of a Lincoln or the poetry of a Burns. We have already instanced the degree to which such qualities as courage and persistence are exercised by life in new countries, and how quickly the

stratification of ability proceeds, not because opportunity lies any nearer to our reach, but because both the will and the chance to succeed are more common.

In considering the effect that the circumstances of life have in developing the more positive traits of character we should like to point out a somewhat unfortunate tendency in human disposition which is especially apparent in the self-made or self-educated man. The conditions with which such a man has had to contend undoubtedly sharpen his resolution, confirm his ambitions and give point to his purposes. But unfortunately that habit of driving straight to the mark, of doggedly hewing to the line which the knots in the wood only serve to accentuate, is continued long after the period when it was of essential value. In other words once success is attained by these means we are rarely able to go back and pick up the softer virtues of tact and conciliation and sympathy which we shed by the way of our progress. He is fortunate indeed who can keep compounded in the metal of his developed personality, simplicity, humility and sweetness of disposition along with that hardened courage and keen tempered resolution essential to success.

We have in another chapter indicated what temperamental defects have been found to be of paramount importance to social sufficiency and have discussed their bearing on both racial and individual progress. A further brief survey may be taken of them from the standpoint of the degree to which they may be affected by training.

We may take it for granted that planning ability is a matter of inborn capacity and cannot be measurably increased by training or education, nor, conversely, if it is denied opportunity for expression does it disappear by disuse. It is always latent and may be brought to functioning in a single generation if opportunity is given.

The success of the Chinese boy referred to in chapter III is sufficient proof that education may bring to functioning ability that has had no chance to appear for many generations, and shows that in some way the fine metal of superior mentality is in no sense debased, even though it be handed down through the medium of the lowly blood of the Chinese coolie.

Originality itself with which planning capacity is intimately related cannot then be increased by education, but what is almost equally important is that education may bring about that attitude of mind which impels us to trust ourselves to do our own thinking. It is, therefore, the tendency to use our planning capacity which may be increased; and one of the most hopeful signs of progress in present-day education is the movement to give the student freer rein to plan his projects and to develop his own resources in his own way. If with this strengthening of the pupil's individuality the schools can also confer a properly balanced and sane self-estimation that will utterly extinguish intellectual snobbishness, then the educational job will be well done. The greatest danger in American education is not that it will not be sufficiently individualistic in its trend—it could hardly be otherwise in such a nation—but that along with the development of the student's self-reliance it is likely to bring about a heightening of the ego, which means a loss of all social perspective and a blind and foolish devotion to selfish purpose. There is no problem more worthy of the earnest thought of school-men today than how to ensure that their pupils in getting wisdom shall also get understanding.

But if mental capacity cannot be increased by training, the case seems to stand differently as regards the moral and temperamental traits. In this direction at least it is true that as the twig is bent so the tree inclines. But some traits seem so deeply rooted in our natures that they

are almost inaccessible to the influence of training. Such a one is suggestibility, and the reason it is so deeply engrained is that, for people on the level of those who cannot think for themselves, it is a positive virtue. For intimately connected with suggestibility is that mental and moral submissiveness, that readiness to follow a leader that is of course of social value to people who ought to be led. Since it has occupied such an important part in the development of the social history of mankind it is no wonder that it is still a widespread individual characteristic.

Impulsiveness however, is one of those common flaws in social disposition which seem somewhat susceptible to training. We have previously pointed out that we tend to realize very quickly the consequences of our impulsive acts. Irresolution is also a trait which can be steeled out of ourselves as it is to a certain extent under the dominance of the will. The satisfaction of victory once experienced will spur us on to greater efforts to win again. The sense of inferiority, or of indecisiveness, once it has been overcome, has a lesser influence over us thereafter. So too over-emotionality with its more direct physical basis seems to be amenable to training through the habit of self restraint. We may habituate ourselves by practice to the class of situation that at first we react to with nervous and emotional confusion. Self-restraint can therefore be achieved through conscious effort. Among the Japanese as among the American Indians, self composure is apparently made an ideal of conduct. Japanese children are noted for their emotional self-control.

As regards flight of interest and changeability of mood, training, whether it be through the discipline of home or school, has beneficial effects. When this trait appears to excess it is one of the marks of a psychopathic personality. The discovery of special aptitudes and the provision for their exercise will help to ensure the dominance of certain

interests, for the thing we do easily we also tend to do with all our might. Obtrusiveness, an unduly aggressive spirit, also enters very deeply into character and more than anything else, with the exception, perhaps, of impulsiveness, is a trait intimately associated with race. Though it is extremely hard for this trait to be overcome it may however, be sublimated so as to function on a higher level than it usually does. Backed up by great mental gifts it may even be an asset, but when these are lacking, the obtrusive person is, above all things, the most obnoxious to our sense of social decorum.

The traits which we have mentioned have a negative value for character, since they are either exaggerations of some negative trait or a deficiency of some positive virtues. Over-emotionality is merely sensitivity carried to excess and irresolution is an exaggerated prudence. Impulsiveness, obtrusiveness, over-suggestibility, represent a lack of normal inhibitory power. Just as in ordinary educational training it is far easier to develop aptitudes than to overcome weaknesses, so also in the field of character education it is easier to heighten the quality of our virtues than to make up our deficiencies. Ambition, pertinacity, determination grow by what they feed on, and the consciousness of success sharpens the temper of these qualities immeasurably. But while it is possible to reenforce these positive traits, education can by no means neglect the work of repairing deficiencies in character. It is useless to crowd on more sail and leave the rents in the hull unmended.

While it is beside the main purpose of this book we may enquire as to the success of present day education in developing these all important traits of character. If it be true that they can be modified by experience more than the purely intellectual traits it would seem that education is somewhat neglecting the field in which its efforts might

bring the greatest returns. To leave an insignificant place for character training in our educational aim is to pursue a policy fraught with grave danger to the race—not that this character training should ever be confused with the buttressing of outworn creeds or the rehabilitation in popular esteem of meaningless shibboleths.

Our schools at present appear to aim more at fostering individuality than character. The tendency seems to be to encourage the student to seek his own educational pathways, to stand on his own feet, and above all things to attain self-expression. The principle of self expression through self-activity is the keynote of educational practice. How eagerly was the Montessori system hailed as a method of applying this principle to very young children, and the project method is a continuation of the plan. The policy for the teacher is to stay in the background, to interfere as little as possible with the self-activity of the pupils. Accordingly, in order to encourage self-expression the school provides auditorium and audience, the arena and the applause. No one can object to forward movements in educational practice, but what we gain in one direction we may easily lose in another. Is there not grave danger of intensifying that egotistical self-assurance of youth, of allowing the pupil to fall into the abyss of self-conceit wherein great mental gifts are stultified and all progress lost in an egocentric whirl?

The home, the church, and the school have joined hands to form an arena in which youth and its accomplishments are exalted to the full, and where the sacredness of childish ambitions and purposes is upheld. In American education this tendency is most marked. The baby graduates with all due ceremonies from the cradle-roll to the kindergarten of the Sunday School, and with still more elaborate ceremonies from the kindergarten to the primary grades. These latter have their graduating exercises,

their orations, their dresses and addresses. The High Schools multiply this pomp and ceremony and our ears are dinned with valedictory and salutatory declamations. Throughout college life the show goes on, so that life is one commencement after another, everything possible being done to assure the youth that all the world is a stage and that he alone possesses it. The highest academic honours are conferred by the hundred yearly for disquisitions which are then promptly consigned to the oblivion to which they properly belong. Everywhere is this conspiracy to exalt callow youth upon a pinnacle, to provide him with an audience, to enlarge his ego beyond all bounds. We carry the worship of Youth so far as to ape for ourselves his appearance, imitate his manners, and preserve his vain enthusiasms.

In feebleminded institutions it has been found that constant encouragement and praise are the most effective means of keeping the inmates happy and obtaining their best efforts. Nowhere are the fruits of kindliness and praise so well exemplified as at the Vineland Training School under the superintendency of E. R. Johnstone. But is it not time that we cease trying to carry over the methods successful with the tender-minded imbecile, to the education of normal people in whom a certain toughness of fibre, which can only be developed by discipline, is essential? In a feebleminded institution we may readily overlook the obtrusiveness and the egocentric attitude which a constantly appreciative audience engenders, but this is not the case in a world where social service has a much wider orbit and where successful living enjoins effort with or without appreciation. If the modern school can confer knowledge and at the same time bestow that understanding which has its issue in a resistance to the foolish suggestibility of the crowd, in coolness of resolution and determination without stimulant, in the sub-

stitution of reason for impulse, in reverence and humility instead of self-expansion and assertion, then such a school will have rendered a more notable service to the community than if it turned out a hundred Ph. D.s yearly or the best football team in the country.

It is time that we looked to our educational fences and readjusted our ideas of values and disciplines. We must beware of the tendency of the schools to turn out teachers and thus to become like the inhabitants of the island who lived by taking in one another's washing. The purely scholastic work of the schools is being done probably better than ever before, but it is with the wider duties of education that we are concerned. If our theory be true that it is the modifiable traits which have the greatest value for the future development either of the individual or the race, then here is the sphere in which educational effort will surely be most productive. But because schooling goes on outside the schools, we require a readjustment of values both within and without the school room. The community must cease exalting the day labour of the schools and the teacher, must come to the belief, and bring the teacher to it also, that the labour of teaching children to read and write and cipher is not in itself high-grade work and may indeed be entrusted to very mediocre people, but that only people of character can teach character. To the pupil also we must say that this same reading and ciphering and writing is only mediocre work and not worthy of much commendation, but that the stamina and resolution and reverence for knowledge, in short the self-discipline that comes of doing the task with all our might—and not the applause—is the thing worth getting.

But this discipline cannot come wholly from the school. In social life there are visible tendencies that have an unfortunate bearing on individual and national character.

The desire of youth to obtain an audience grows rather than diminishes with age. We envy the man who has seized the biggest megaphone, who has obtained a following, the widest circle of listeners. The attainment of this aim is denied to most of us, but we may obtain a vicarious satisfaction and an indirect enlargement of our ego by identifying ourselves with clubs and organizations and movements, and the noisier the movement the greater the satisfaction. In its more common form this enlargement of the ego takes the form of boosting one's home town or exalting the value and importance of the societies of which we are members. To be so greatly proud of coming from a *real* town or of belonging to a "live bunch" is merely a form of diffused self conceit. At higher levels the ego may be enlarged by the exaltation of our own trade or profession and an earnest belief that within the round of our chosen activities are to be found all the burning questions of the day. If feeblemindedness or mental diagnosis is the question in which we are expert, then we very soon develop a tendency to see this matter as the most fundamental and important of any. To have special knowledge in a specially important subject is to argue ourselves of very special importance. No matter what it is we feel we have to say, the only proper place to proclaim it is from the housetops.

The growth of societies both secret and public, is an outcome of this desire of men to multiply their kind, to see themselves in countless duplicate and thus to fortify their belief in themselves, their purposes and preferences. So we have a plethora of clubs and organizations each with high sounding titles and still nobler codes of ethics, all spinning violently on their own axes but going nowhere, accomplishing next to nothing except the holding of countless conventions where men may receive their ideals ready-made and cut to standardized patterns, much

as they buy their clothes. How inane is this business of "getting together" when we have nothing to bring with us to enrich the common stock, when no one is made wiser for our experience for we have nothing to give. To speak a lot but to say nothing, to make much ado over very little, is a well marked tendency of youth that has been projected far into the conduct of our mature life. For this attitude our schools and colleges are somewhat to blame, and to this process of miseducation the magazines and business publications contribute their malevolent share. According to this gospel of callowness the one thing necessary to success and happiness is to be a booster for your college, for your fraternity, for your home town, for your nation, and above all else for yourself. Is it not time that educators and psychologists, instead of being so much concerned with the average mental age of the nation—which cannot be raised or modified—or with counting up the number of superior I. Q.s—which cannot be increased—should begin to take thought for the nation's morrow by the earnest endeavour to develop through our schools that "balanced and sane reaction to the entire world of things, ideas and persons" which is of such utmost importance and which the present social trends seem to indicate is being lost sight of in the aims of education.

We have already referred to that worst defect of the half-educated—the tendency to reenforce their self-esteem and to allay the suspicion of their own unworthiness by becoming part of the swarm. But the first essential of this needless gregariousness is that you become exactly like one of the crowd. Thus suggestibility, finding expression in a foolish imitativeness, has become a prominent American trait. But as we have elsewhere indicated, suggestibility, while a fatal flaw in the character of the leader, may have the positive value of a virtue in the led. We must recognize that the great majority of people can

only be followers. To preach adult independence of thought and action to the adolescent and immature is to create a taste that is too dangerous to satisfy. Provided the model is worthy, imitation may be healthful and sane. Whatever the higher institutions of learning may confer on the individual in the way of education, in their corporate life their greatest gift to this country would be the much needed example of simplicity, humility and the dignity of self-restraint. Unfortunately the life of the universities partakes too closely of the spirit of our common existence in which adolescent blatancy and self-assertion have their fullest sway.

It may be true, it unfortunately is true, that the more intellectual stocks are losing ground, numerically speaking, through voluntary birth control. But what can we do about the matter except to utter a warning and then to await the slow awakening of a public conscience among the class who claim to be the public leaders? In the meantime the way seems plain. If we hope for race survival, then we must proceed to develop to the full our human resources, the children that are already born. We need fear no racial competition, no rising tide of colour, if we can conserve our existing strength; and the best way to do this is by developing ideals of behaviour consistent with character.

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The following titles include only the investigations in racial differences by means of mental tests.

Arlitt, A. H. On the need for caution in establishing race norms. Jour. App. Psych. 1921 Vol. 25 No. 2 pp. 179-183. 343 primary children, native white, negro and Italian, were examined by the Stanford Binet. The necessity of considering the social status of the group measured is emphasized. Conclusion is that racial differences are not nearly as striking as differences between children of the same race but of different social status.

———— The relation of intelligence to age in negro children. Jour. App. Psych. 1922 Vol. 6 pp. 378-384.
180 negro children examined by the Stanford Binet. The largest percentage of children was from a group of inferior social status. The median I. Q. for negro children decreases with increasing age from age 6 to 10-15 yrs. combined. At all ages beyond 6 yrs. negroes are inferior to whites and this inferiority increases with increasing age. Sex differences are slight except at ages 5 and 6 when the girls are markedly superior to the boys.

Bailey, Pearce. A contribution to the mental pathology of races in the United States. Mental Hygiene 1922 Vol. VI pp. 370-391.
The results of this report are taken from the neuro-psychiatric statistics of the army. 69,394 fully classified cases were divided into nine clinical groups in order to determine the variations in distribution of the various disease types found among the members of foreign born and native born races. It was found that the negro evidences a tendency toward mental defect and away from every other neuro-psychiatric condition. The English have an average distribution. The Mexicans, American Indians, African Negroes, and Slavonic peoples were equally high in the percentage of mental defect. None of the other races showed such a high percentage in any one of the nine groups.

Brown, Gilbert. Intelligence as related to nationality. Jour. Ed. Research. 1922 Vol. V pp. 324-327.
The Stanford Revision of the Binet was applied in northern Michigan to 913 school children. The median I. Q.s found were as follows:—Norwegian 104, German 102, Swede 101.9, English 101.75, Austrian 99.5, French 95.4, Finnish 90, Slovak 85.6, and Italian 77.5. All the Germanic groups tested higher

than any of the non-Germanic groups. The extremely low score of the Italian group is probably due to the fact that they came from two mining localities in which the work is unusually slavish, where only men of inferior intelligence would remain.

Colvin, Stephen S. and Allen, Richard D. Mental tests and linguistic ability. Jour. Ed. Psych. 1923 Vol. 14 pp. 1-20. The Stanford Binet and the National Intelligence tests were used to examine 50 American and 50 Italian children of the same school status, about the same range and average of chronological age, and very nearly the same pedagogical age with a slight difference in favor of the Italians. The average Binet I. Q. of the American children was 92, for the Italians 91. The average National Inteligence I. Q. was for Americans 85, Italians 76. The conclusion was that Italian children suffer from language handicap.

Derrick, S. M. A comparative study of the intelligence of 75 white and 55 colored college students by the Stanford Revision of the Binet. Jour. App. Psych. 1920 Vol. 4 pp. 316-329. The average I. Q. of the white students was found to be 112, of negroes 103. The college work of the white students was inferior to the ability demonstrated in the tests, while the college work of the negroes was given a higher rating than would be expected from the test results. The average score of the white students was higher than that of the negroes while the mean variation was less.

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Lacy, William L. A study of 100 retarded fourth grade pupils tested by the Binet scale. Psych. Clinic. Vol. XII No. 1 pp. 16-23.
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McFadden, John A. and Dashiell, J. E. Racial differences as measured by the Downey Will-temperament test. Jour. Appl. Psych. 1923. Vol. VII pp. 30-53.
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Memoirs of the National Academy of Sciences:—Psychological Examining in the United States Army. (Ed. R. M. Yerkes) Washington Govt. Printing Office. 1921.
This report of the mental examinations given to the army recruits provides the most extensive data available for racial comparisons by means of the army group tests.

Murdoch, Katharine. A study of race differences in New York City. Sch. and Soc. 1920. Vol. XI pp. 147-150.
The Pressey Group Intelligence test was used to discover the amount of differences in intelligence of four races who live in two rather similar and somewhat undesirable localities in New York City. 500 each of Hebrews, Italians, and native Americans, and 230 colored were examined. On the average the Hebrews have the same amount of intelligence as the native white population of the same district. The negro population comes next, 30 per cent of which equals or exceeds the Hebrew median, and the Italian last, with less than 15 per cent exceeding the Hebrew median.

Pintner, R. Comparison of American and Foreign children in intelligence tests. Jour. Ed. Psych. 1923. Vol. 14 pp. 292-295.

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A revision of the Binet test given to kindergarten, 1st and 2nd grade children in three schools in which the large majority were from foreign speaking homes gave the following results: —Average I. Q. for children from English speaking homes 92, foreign speaking homes 84. The Pintner Group Test was given to one group with these results:—English speaking Group Test I. Q. 109; foreign speaking 103. Evidently language difficulty operates to a considerable extent with children who hear a foreign language at home.

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100 white and 100 Mexican children all enrolled in the 1st grade were examined by the Stanford Binet. The average

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Sunne, Dagny. A comparative study of white and negro children. Jour. App. Psych. 1917. Vol. 1. No. 1 pp. 71-83.
Negro and white children in New Orleans were examined by the Binet-Simon and the Yerkes-Bridges Point Scale. The conclusion was that variations in individual capacities are probably as great influences in causing differences as either race or sex.

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Yeung, K. T. Intelligence of Chinese children in San Francisco and vicinity. Jour. App. Psych. 1921. Vol. 5 pp. 267-274.
62 Chinese boys and 47 Chinese girls, 49 of whom were from 9-10 yrs. of age, and 33 from 12-13 yrs. were examined by the Stanford Binet which was used exactly except that the vocabulary tests were omitted and additional credit was allowed in the other years in which the vocabulary occurred. The home environment of these children was much more Chinese than American for the tongue, customs, beliefs, and religion are all retained in the settlement where they live. The median I. Q. for boys was 93.5, for girls 99.9, for the whole group of all ages 97. Greater variability of the Chinese

in school progress is evident from the fact that the amount of both retardation and of acceleration is greater for the Chinese than for Terman's group of 905 unselected American children. No striking differences were found in intelligence as measured by the tests. Although the Chinese belong chiefly to the lower levels of occupational status compared with groups of American children there is a greater observable tendency for the mental level to range above economic and social classification.

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